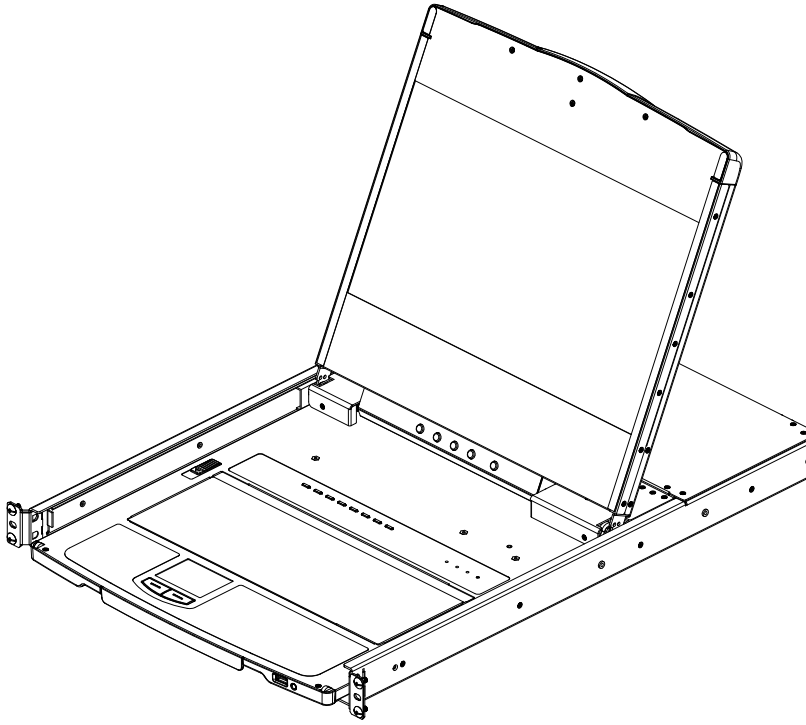
User Manual
RM-KB-LCD17KVMHD

Dual Rail 8-Port LCD KVM Switch



Middle Atlantic Products

I-00722 Rev -

FCC, CE Information

FEDERAL COMMUNICATIONS COMMISSION INTERFERENCE STATEMENT: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

CE Warning: This is a class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

RoHS

This product is RoHS compliant.

Telephone Support

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User Notice

All information, documentation, and specifications contained in this manual are subject to change without prior notification by the manufacturer. The manufacturer makes no representations or warranties, either expressed or implied, with respect to the contents hereof and specifically disclaims any warranties as to merchantability or fitness for any particular purpose. Any of the manufacturer's software described in this manual is sold or licensed *as is*. Should the programs prove defective following their purchase, the buyer (and not the manufacturer, its distributor, or its dealer), assumes the entire cost of all necessary servicing, repair and any incidental or consequential damages resulting from any defect in the software.

The manufacturer of this system is not responsible for any radio and/or TV interference caused by unauthorized modifications to this device. It is the responsibility of the user to correct such interference.

The manufacturer is not responsible for any damage incurred in the operation of this system if the correct operational voltage setting was not selected prior to operation. PLEASE VERIFY THAT THE VOLTAGE SETTING IS CORRECT BEFORE USE.

A typical LCD (Liquid Crystal Display) monitor has millions of pixels. A dead pixel refers to a pixel with a defect in its ability to display the correct color output. It most often looks like a tiny black or white spot on your screen, although it can be any other color. Since even a tiny dust particle on one of the pixels during the manufacturing process or a slight bump during shipping can create a dead pixel, the ISO 13406-2 norm defines 4 classes of acceptable screens with dead pixels--Class 1 is the best; Class 4 is the worst. Almost all manufacturers use Class 2 to establish their warranties, which allows a certain amount of dead pixels to exist before they will replace the screen. Since the manufacturers consider these screens to be acceptable under ISO specifications, we cannot be responsible for replacement or warranty of the TFT LCD panel.

Package Contents

Basic Package

The basic RM-KB-LCD17KVMHD package consists of:

1 RM-KB-LCD17KVMHD Rackmount LCD KVM switch

2 Custom USB DVI KVM Cable Set

1 Power Cord

1 User Instructions*

1 Quick Start Guide

Check to make sure that all of the components are present and in good order. If anything is missing, or was damaged in shipping, contact your dealer.

Read this manual thoroughly and follow the installation and operation procedures carefully to prevent any damage to the console or to any other devices on the RM-KB-LCD17KVMHD installation.

***** Changes may have been made to the manual since it was published. Please visit our web site to download the most up-to-date version of the manual

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About this Manual

This User Manual is provided to help you get the most from your RM-KB-LCD17KVMHD system. It covers all aspects of installation, configuration and operation. An overview of the information found in the manual is provided below.

Chapter 1, *Introduction*, introduces you to the RM-KB-LCD17KVMHD system. Its purpose, features and benefits are presented, and its front and back panel components are described.

Chapter 2, *Hardware Setup*, provides step-by-step instructions for setting up your installation, and explains some basic operation procedures.

Chapter 3, *Operation*, explains the fundamental concepts involved in operating the RM-KB-LCD17KVMHD.

Chapter 4, *On Screen Display (OSD) Operation*, provides a complete description of the RM-KB-LCD17KVMHD on-screen display (OSD), and how to work with it.

Chapter 5, *Keyboard Port Operation*, details all of the concepts and**,** procedures involved in the hotkey operation of your RM-KB-LCD17KVMHD installation.

Chapter 6, *Remote Logging In*, describes how to log into the RM-KBLCD17KVMHD via its Graphical User Interface (GUI) with each of the available access methods: from the local console; an internet browser; a standalone Windows application (AP) program; and a standalone Java application (AP) program.

Chapter 7, *Remote User Interface*, describes the layout and explains the components of the RM-KB-LCD17KVMHD's user interface.

Chapter 8, *Remote Port Access*, describes the Port Access page and how to use it to configure the options it provides regarding port manipulation.

Chapter 9, *Remote User Management*, shows administrators how to create, modify, and delete users, and assign attributes to them.

Chapter 10, *Remote Device Management*, shows administrators how to configure and control overall RM-KB-LCD17KVMHD operations.

Chapter 11, *Remote Log*, shows how to use the log file utility to view all the events that take place on the RM-KB-LCD17KVMHD.

Chapter 12, *Remote Maintenance*, explains how to upgrade the RM-KBLCD17KVMHD's firmware, as well as the firmware of the KVM Adapter Cables used to connect its ports to the installed devices.

Chapter 13, *Remote Download*, describes how to download standalone AP versions of the Win Client, the Java Client, the Log Server, and Power Over the Net (PON) programs.

Chapter 14, *Port Operation*, provides detailed information on accessing and operating the devices connected to the RM-KB-LCD17KVMHD's ports.

An Appendix, provides specifications and other technical information regarding the RM-KB-LCD17KVMHD.

Conventions

This manual uses the following conventions:

`Monospaced`	Indicates text that you should key in.
[ ]	Indicates keys you should press. For example, [Enter] means to press the **Enter** key. If keys need to be chorded, they appear together in the same bracket with a plus sign between them: [Ctrl+Alt].
1.	Numbered lists represent procedures with sequential steps.
♦	Bullet lists provide information, but do not involve sequential steps.
→	Indicates selecting the option (on a menu or dialog box, for example), that comes next. For example, Start → Run means to open the *Start* menu, and then select *Run*.
	Indicates critical information.

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Chapter 1
Introduction

Overview

The RM-KB-LCD17KVMHD switch is an integrated LCD console and keyboard, video, and mouse (KVM) switch that offers secure access to 8 attached computers and mounts in only 1U of rack space. It features an independently retractable 17.3” HD widescreen LCD monitor and keyboard with built-in touchpad. To maximize space in your data center, the keyboard/touchpad module hides away when not in use, while the thin profile LCD monitor rotates back – flush against the rack – allowing convenient monitoring of computer activity.

An extra console port is provided on the rear panel to manage the LCD KVM switch from an external console (monitor, keyboard, and mouse). For added convenience it also supports an external USB Peripheral Port.

The RM-KB-LCD17KVMHD supports both PS/2 and USB keyboards and mice for the connected computers, and supports USB peripheral devices to be used with the attached computers. A single RM-KB-LCD17KVMHD can control up to 8 computers.

Your RM-KB-LCD17KVMHD investment is protected by an included firmware upgrade utility. You can stay current with the latest functionality improvements by downloading firmware update files from our website as they become available, and using the utility to quickly and conveniently perform the upgrade.

Access to any computer connected to the installation is easily accomplished either by entering hotkey combinations from the keyboard, or by means of a powerful, mouse driven, OSD (on-screen display) menu system. A convenient *Auto Scan* feature also permits automatic scanning and monitoring of the activities of all computers running on the installation one by one.

The switches use TCP/IP for their communications protocol, they can be accessed via their IP addresses from anywhere on the LAN, WAN, or Internet– whether the connecting computer is located down the hall, down the street, or half-way around the world. Remote operators can log in via their browser or make use of stand-alone Windows or Java GUI applications. Java allows the switches to work with JRE (Java Runtime Environment) enabled operating systems – ensuring multi-platform operability.

Features

- Integrated KVM console with a 17.3” Widescreen DVI Full HD LCD monitor
- Supports an external console with DVI / VGA / HDMI video ports
- Superior video quality – up to 1920 x 1080 @60Hz; DDC, DDC2, DDC2B
- Adjustable depth to fit within the rack
- Standard 105-key keyboard; Sun keyboard emulation
- Multiplatform support – Windows, Linux, Mac, and Sun
- Firmware upgradeable via Web GUI
- DDC emulation – video settings of attached computers are automatically adjusted for optimal output to the monitor
- Two level password security - authorized users view and control computers.
- Auto Scan mode enables continuous monitoring of user-selected computers
- Broadcast support - commands from the keyboard can be broadcast to all available computers on the installation
- Hot pluggable - add or remove computers without having to power down the switch
- Supports external USB Peripheral Port
- Keyboard status restored when switching computers
- Support HDCP (HDMI)
- Panel array mode available to remote access users
- Support Browser-base UI in pure Web technology
- Advanced Security
  - Remote authentication support: RADIUS, LDAP, LDAPS, and MS Active Directory
  - Supports SSL 128-bit data encryption and RSA 1024-bit certificates to secure user logins from browsers
  - Flexible encryption design allows users to choose any combination of 56-bit DES, 168-bit 3DES, 256-bit AES, 128-bit RC4, or Random for independent KB/Mouse, video, and virtual media data encryption
  - Support for IP/MAC Filter

- Configurable user and group permissions for server access and control
- Automated CSR creation utility and third party CA certificate authentication

- Virtual Remote Desktop
  - Video quality and video tolerance can be adjusted to optimize data transfer speed; monochrome color depth setting, threshold and noise settings for compression of the data bandwidth in low bandwidth situations
  - Full screen video display or scalable video display
  - Message Board for communication among remote users
  - Mouse DynaSync™ automatically synchronizes the local and remote mouse movements
  - Exit Macros support
  - On-screen keyboard with multilanguage support
  - BIOS-level access

Requirements

LCD Console

- The integrated LCD monitor's maximum resolution is 1920 x 1080 @60Hz. Make sure that none of the resolution settings of the connected computers exceed the LCD monitor's maximum resolution.

External Console

- A VGA, SVGA, MultiSync, DVI, or HDMI monitor capable of displaying the highest resolution provided by any computer in the installation
- USB keyboard and mouse

Computers

The following equipment must be installed on each computer:

- A VGA, SVGA, DVI, HDMI or multisync video graphics card

Note: The integrated LCD monitor's maximum resolution is 1920 x 1080 @ 60 Hz. Make sure that none of the computer resolution settings exceed the LCD monitor's maximum resolution.

- USB mouse and keyboard ports.

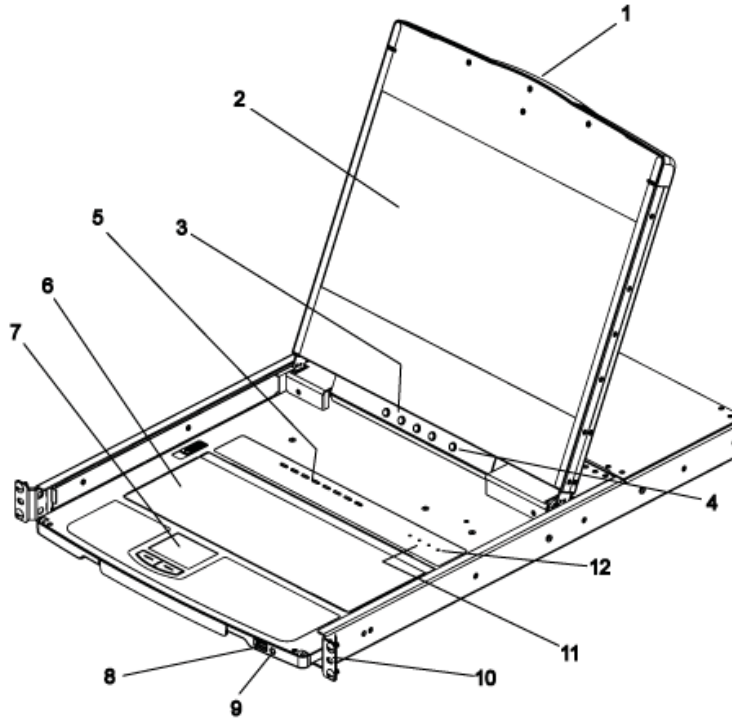
Operating Systems

Supported operating systems are shown in the table, below.

OS		Version
Windows		NT and higher
Linux	RedHat	9.0 and higher
	SuSE	10 and higher
	Mandriva (Mandrake)	9.0 and higher
UNIX	AIX	4.3 and higher
	FreeBSD	5.5 and higher
	Sun	Solaris 8 and higher
Novell	Netware	5.0 and higher
Mac		9.0 and higher
DOS		6.2 and higher

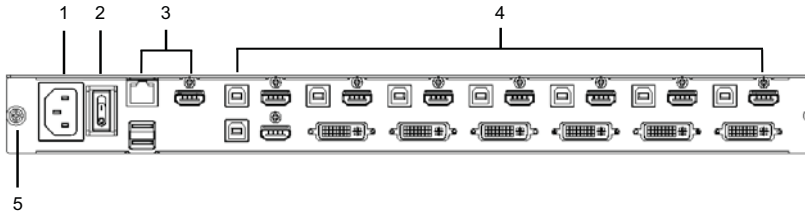
Components

Front View



No.	Component	Description
1	Upper Handle	Pull to slide the LCD module out; push to slide it in. See *Operating Precautions*, page 15, for details on sliding the console in and out
2	LCD Module	After sliding the LCD module out, flip up the cover to access the LCD display.
3	LCD Controls	The buttons to control the position and picture settings of the LCD display are located here. See page 16, for details.
4	LCD On / Off Button	Push this button to turn the LCD monitor on and off. The button lights when the LCD monitor is off. **Note:** The light indicates that only the monitor is off, not the attached KVM switch.
5	Port Selection Buttons and LED	To access a Port on the currently selected Station press its corresponding port selection button. Indicator LEDs are built into the switches: -An On Line LED light to indicate that the computer attached to its corresponding port is up and running. -A Selection LED light to indicate which port has the KVM focus.
6	Keyboard Module	Standard 105-key keyboard
7	Touchpad	Standard mouse touchpad
8	USB Port	The USB port is available to connect a USB peripheral device (flash drive, CD-ROM drive, etc.) to the console, or a USB mouse for users who prefer to use an external mouse.
9	Power LED	Lights (green) to indicate that the unit is receiving power.
10	Rack Mounting Tabs	Rack mounting tabs are located at each corner of the unit.
11	Lock LEDs	The Num Lock, Caps Lock, Scroll Lock LEDs are located here.
12	Reset Switch	Located to the right of the Lock LEDs. Press this recessed switch in with a thin object to perform a system reset.

Rear View



No.	Component	Description
1	Power Socket	This is a standard 3 prong AC power socket. The power cord from an AC source plugs in here.
2	Power Switch	This is a standard rocker switch that powers the RM-KB-LCD17KVMHD on and off.
3	External Console Section	For flexibility and convenience, the RM-KB-LCD17KVMHD supports an independent, external, KVM console. The external console's USB keyboard and mouse, DVI, VGA, or HDMI monitor, and audio cables plug in here.
4	KVM Port Section	The custom KVM cable supplied with the package for linking the RM-KB-LCD17KVMHD to a computer or switch plugs in here. An additional HDMI and DVI port are provided.
5	Grounding Terminal	The grounding wire (used to ground the unit) attaches here.

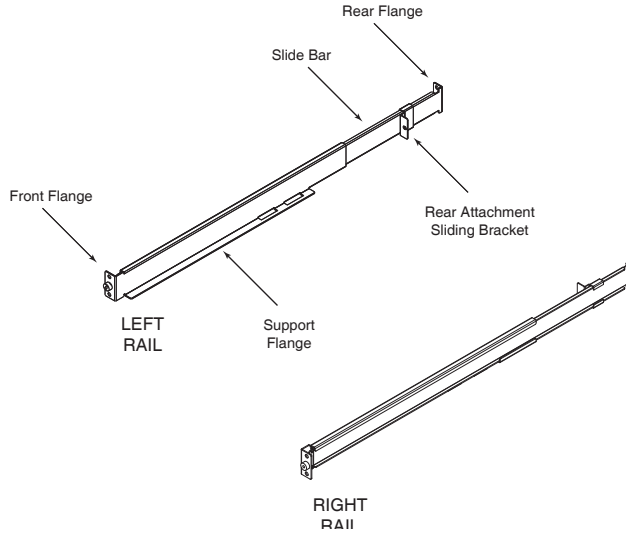
Chapter 2
Hardware Setup

Before you Begin

1. Important safety information regarding the placement of this device is provided in *Safety Instructions*. Please review it before proceeding.
2. Make sure that power to all the devices you will be connecting up has been turned off. You must unplug the power cords of any computers that have the Keyboard Power On function.

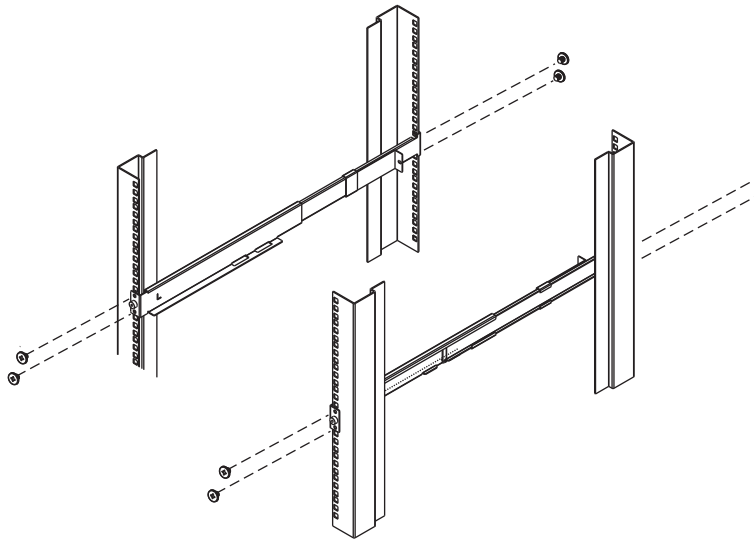
Rack Mounting

1. Loosen ground screw prior to mounting. When unit is fully installed, tighten ground screw.
2. Attach the left and right mounting rails to the inside of the rack. The flange that supports the unit will be to the inside.

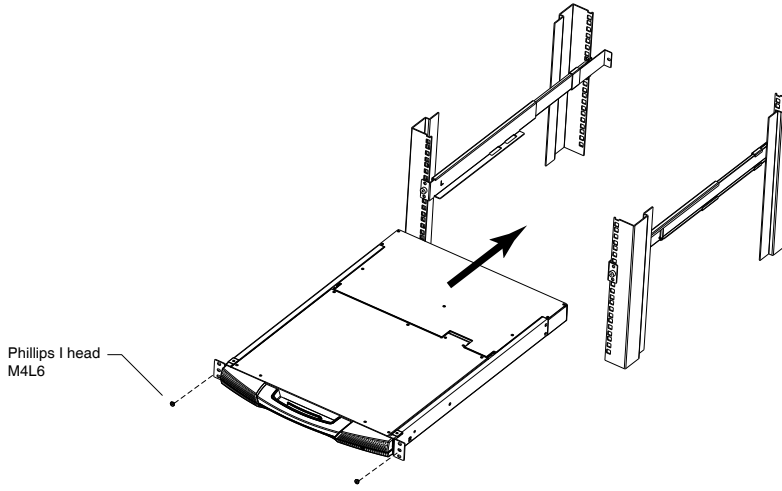


a) Screw the front flanges to the rack first.

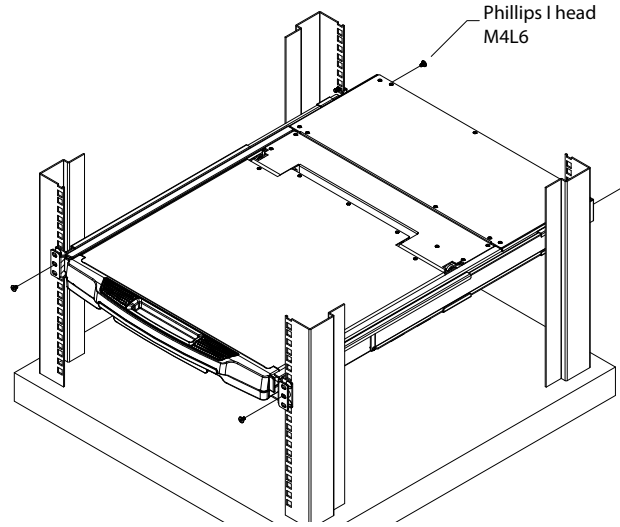
b) Slide the bars with the rear flanges toward the rack until the flanges make contact with the rack, then screw the rear flanges to the rack.



3. Slide the RM-KB-LCD17KVMHD onto the support flanges. Use the screws supplied with this package to loosely attach the front of the RM-KB-LCD17KVMHD to the front of the rack (only tighten the screws part way).



4. Slide the rear attachment sliding brackets along the slide bars until they contact the rear of the RM-KB-LCD17KVMHD, then use the screws supplied with this package to attach the bars to the rear of the RM-KB-LCD17KVMHD (tighten the screws all the way).



5. Slide the RM-KB-LCD17KVMHD open and closed a couple of times to be sure that it is properly aligned and operating smoothly.
6. After determining that the RM-KB-LCD17KVMHD is lined up and operating correctly, finish by fully tightening the front attachment screws inserted in Step 3.

Connecting Up

Refer to the example installation diagram as you perform the following steps:

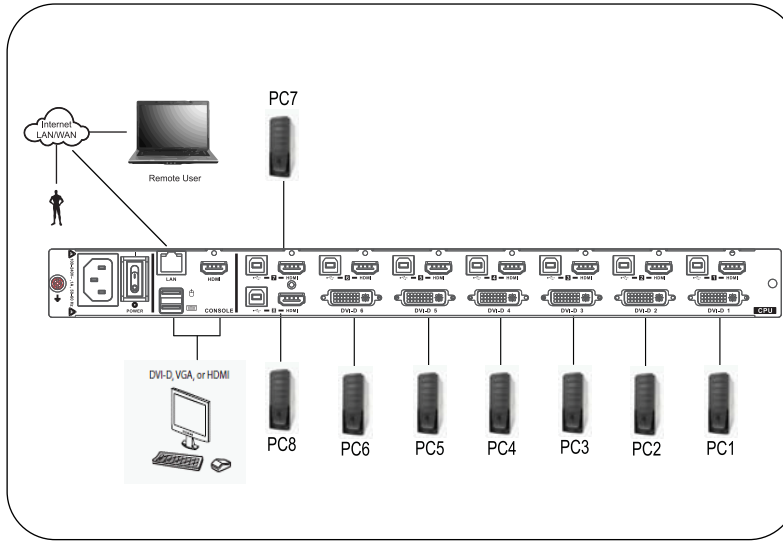
1. Plug the USB; then DVI, VGA, or HDMI, and audio connectors of a KVM cable (either supplied with the unit, or purchased separately, see *Operating Systems*) into the CPU port on the rear of the RM-KB-LCD17KVMHD.
2. Plug the keyboard, monitor, mouse of the KVM cable into their respective ports in the Console Section of a KVM switch or computer.
3. If you are installing an external console, plug your keyboard, monitor, mouse into their respective ports in the Console Section of the RM-KB-LCD17KVMHD.

   Note: The RM-KB-LCD17KVMHD supports a DVI, VGA or HDMI external console monitor, but only one video signal (DVI-D, VGA, or HDMI) can be displayed at a time. The DVI monitor will display a DVI-D signal only.

4. Plug the RM-KB-LCD17KVMHD’s power cord into the RM-KB-LCD17KVMHD's power socket and into a power source.
5. Power up your KVM installation.
6. Turn on the power to LCD Console.

Note: Input source must match output source.

Installation Diagram



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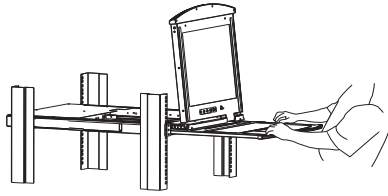
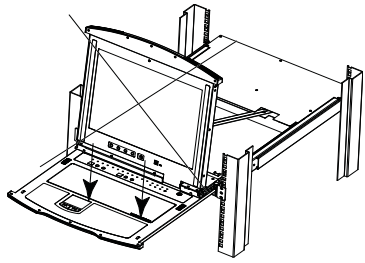
Chapter 3
Operation

Operating Precautions

The maximum load bearing capacity of the keyboard module is 66 lbs. (30 kg) Failure to heed the information below can result in damage to the keyboard module.

	**Right!** Rest your hands and arms lightly on the keyboard module as you work.
	**Wrong!** ◆ **DO NOT** lean your body weight on the keyboard module. ◆ **DO NOT** place heavy objects on the keyboard module.

LCD OSD Configuration

The LCD Buttons

The LCD OSD allows you to set up and configure the LCD display. Four buttons are used to perform the configuration, as described in the table, below:

Button	Function
MENU	◆ When you have not entered the LCD OSD Menu function, pressing this button invokes the Menu function, and brings up the Main Menu. ◆ When you have entered the LCD OSD Menu function, and have reached a setting choice with the navigation buttons, pressing this button brings up its adjustment screen.
▶|▲	When navigating through the menus, this button moves you Right or Up. When making an adjustment, it increases the value.
◀|▼	When navigating through the menus, this button moves you Left or Down. When making an adjustment, it decreases the value.
EXIT	◆ When you have not entered the LCD OSD Menu function, pressing this button performs an auto adjustment. An auto adjustment automatically configures all the settings for the LCD panel to what the OSD considers their optimum values to be. ◆ When you have entered the LCD OSD Menu function, pressing this button exits the current menu and returns you to the previous menu. Use it to leave an adjustment menu when you are satisfied with the adjustment you made. ◆ When you are at the Main Menu, pressing this button exits the LCD OSD.

The Adjustment Settings

An explanation of the LED OSD adjustment settings is given in the table below:

Setting	Explanation
Brightness	Adjusts the background black level of the screen image.
Contrast	Adjusts the foreground white level of the screen image.
Phase	If pixel jitter or horizontal line noise is visible on the display, your LED may have the wrong phase setting. Adjust the phase setting to eliminate these problems.
Clock	If vertical banding is visible on the display, your LED may have the wrong clock setting. Adjust the clock setting to eliminate vertical banding.
H-Position	Positions the display area on the LED panel horizontally (moves the display area left or right).

Setting	Explanation
V-Position	Positions the display area on the LED panel vertically (moves the display area up or down).
Color Temperature	Adjusts the color quality of the display. You can adjust the warmth value, color balance, etc. The *Adjust Color* selection has a further submenu that lets you fine tune the RGB values.
Language	Selects the language that the OSD displays its menus in.
OSD Duration	Lets you set the amount of time the OSD displays on the screen. If there is no input for the amount of time you choose, the OSD display turns off.
Reset	Resets the adjustments on all menus and submenus to their factory default settings. **Note:** The *Language* setting does not return to the factory default, but remains at the one that you have set it to.

Hot Plugging

The RM-KB-LCD17KVMHD supports *hot plugging* – components can be removed and added to the computer by unplugging their cables from the ports without the need to shut down the RM-KB-LCD17KVMHD.

Powering Off and Restarting

If it becomes necessary to Power Off the RM-KB-LCD17KVMHD (to upgrade the firmware, for example), simply turn off the power to the unit using the rear panel power switch. To restart the RM-KB-LCD17KVMHD, turn the rear panel power switch back on.

Port Selection

The RM-KB-LCD17KVMHD provides two port selection methods to access the computers on the installation: Manual and an OSD menu system. Manual port switching is discussed below. See Chapter 4, On Screen Display (OSD) Operation and Chapter 5, Keyboard Port Operation for more information.

USB Peripheral Devices

The front USB port is available to connect a USB peripheral device (flash drive, CD-ROM drive, printer, etc.) to the RM-KB-LCD17KVMHD. Any computer connected to the RM-KB-LCD17KVMHD can access the USB peripheral on a one-at-a-time basis.

The USB peripheral device is automatically detected on target computers when switching ports on the RM-KB-LCD17KVMHD. For example, when switching from a computer connected to port 1 to a computer connected to port 2, the peripheral device automatically disconnects from the computer on port 1 and connects to the computer on port 2.

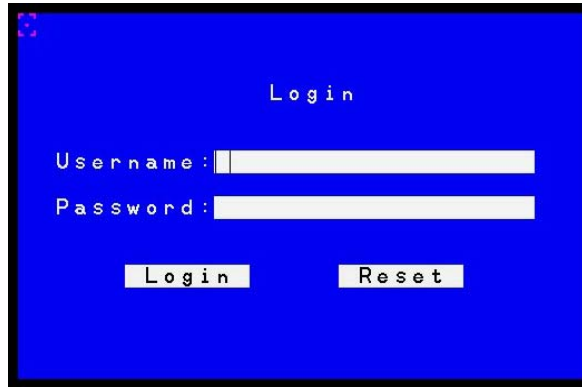
Chapter 4
On Screen Display (OSD) Operation

OSD Overview

The OSD (on-screen display) is a mouse and keyboard enabled, menu driven method to handle computer control and switching operations. All procedures start from the OSD main screen.

OSD Login

The OSD incorporates a two level (administrator / user) password system. Before the OSD main screen displays, a login dialog box appears that asks for username and password. You must provide a valid username and password in order to continue.
The first time that the OSD is accessed, you must use the default username and password. The default username is administrator, the default password is password. For security purposes, we strongly recommend changing these to something unique after you log in for the first time.



After you login in with the default username and password, the OSD Main Screen opens in Administrator mode. In this mode, you have administrator privileges, with access to all administrator and user functions, and set up operations (including password authorization for the future), as you would like.

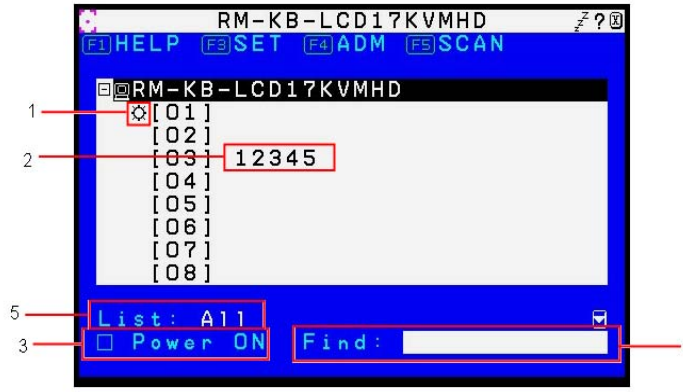
OSD Hotkey

You can display the OSD on the LCD or an external console monitor while also viewing the display of any port on the RM-KB-LCD17KVMHD by pressing the **[Scroll Lock]** key twice.

Note: You can optionally change the OSD hotkey on OSD or Web GUI *User Preference (See Chapter4 OSD Operation or Chapter8. User preference, OSD Hotkey*).

OSD Main Screen

When you invoke the OSD, a screen similar to the one below appears:



No.	Description
1	The computers that are powered on and are online have a sun symbol in this column.
2	If a port has been given a name, its name appears in this column.
3	Tick off this item, the port information will only display powered on and online computers.
4	You can key in the port name which you want to find in the white bar.
5	Select all computer display or favorites list which you created to display. The default is **All.**

OSD Navigation

- To dismiss the menu, and deactivate OSD, click the **X** at the upper right corner of the OSD window; or press **[Esc]**.
- To log out, click **F8** at the top of the main screen, or press **[F8]**.
- To move up or down through the list one line at a time, click the up and down triangle symbols (▲▼) or use the up and down arrow keys. If there are more list entries than what can appear on the main screen, the screen will scroll.
- To move up or down through the list one screen at a time, click the up and down arrow symbols (🡅🡇), or use the **[Pg Up]** and **[Pg Dn]** keys. If there are more list entries than what can appear on the main screen, the screen will scroll.
- To activate a port, double-click it, or move the highlight bar to it, then press **[Enter]**.
- After executing any action, you automatically go back to the menu one level above.

OSD Functions

OSD functions are used to configure and control the OSD. For example, you can rapidly switch to any port, favorites list you wish to view, create or edit a port name, or make OSD setting adjustments.
To access an OSD function:

1. Either click a function key field at the top of the main screen, or press a function key on the keyboard.

2. In the submenus that appear make your choice either by double-clicking it, or moving the highlight bar to it, then pressing **[Enter]**.

3. Press **[Esc]** to return to the previous menu level.

F1: Help

In OSD Main Screen, there are only the [F1], [F3], [F4], [F5] function key information. Accessing **[F1] HELP** that will show other keys **[F2]**, **F7]**, **[F8]**, **[Ctrl]+[T]**, **[Ctrl]+[L]**, **[Ctrl]+[P]**, **[Ctrl]+[F]**, **[Ctrl]+[E]**, **[Ctrl]+[C]** function.

F2: Rename Port Name

To help remember which computer is attached to a particular port, every port can be given a name. This function allows the administrator to create, modify, or delete port names. To edit a port name:

1. Click the port, or use the navigation keys to move the highlight bar to it, then press **[F2]**.

2. Key in the new port name, or modify/delete the old one. The maximum number of characters allowed for the port name is 12. Legal characters include:

- All alpha characters: **A–Z**
- All numeric characters: **0–9**
- * **( ) + : - , ? .** / and **Space**

Case does not matter; OSD displays the port name in all capitals no matter how they were keyed in.

3. When you have finished editing, press **[Enter]** to have the change take effect. To abort the change, press **[Esc]**.

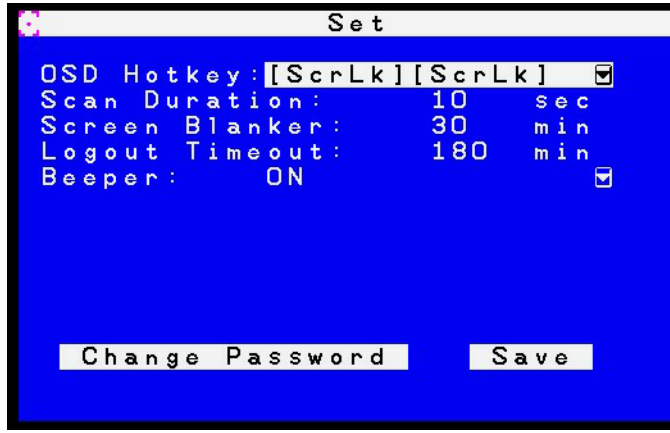
F3: SET

This function allows the administrator and each user to set up his own working environment. A separate profile for each is stored by the OSD and is activated according to the username that was provided during login.

To change a setting:

1. Double-click it; or move the highlight bar to it, then press **[Enter]**.

2. After you select an item, a submenu with further choices appears. To make a selection, either double-click it; or move the highlight bar to it, then press **[Enter]**. An icon appears before the selected choice to indicate which one it is. The settings are explained in the following table:

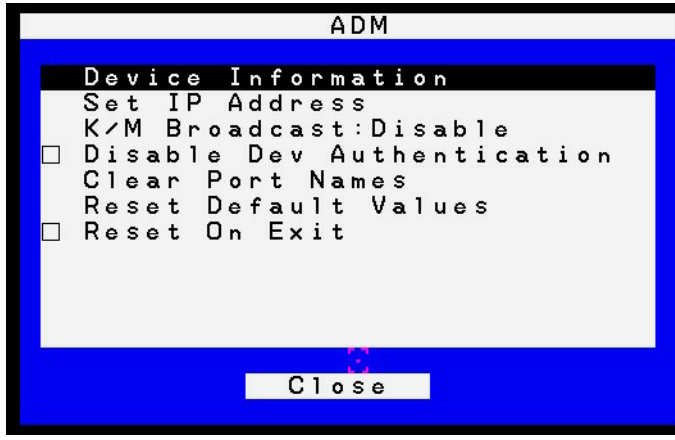


Setting	Function
OSD Hotkey	The Default setting is **[Scroll Lock] [Scroll Lock].** You can optionally change the OSD hotkey as following combination commands. **[Ctrl] [Ctrl]** **[Alt] [Alt]** **[Shift] [Shift]** **[Print Screen] [Print Screen]**
Scan Duration	Determines how long the focus dwells on each port as it cycles through the selected ports in Auto Scan mode. Key in a value from 1–255 seconds, then press [**Enter]**. Default is 5 seconds; a setting of 0 disables the SCAN function. When you want to stop at a particular location, press the **[Spacebar]** to stop scanning.
Screen Blanker	If there is no input from the console for the amount of time set with this function, the screen is blanked. Key in a value from 1–30 minutes, then press **[Enter]**. The default setting of 0 mins disables this function.
Logout Timeout	If there is no input from the console for the amount of time set with this function, the user is automatically logged out. A login is necessary before the console can be used again. This enables other users to gain access to the computers when the original user is no longer accessing them, but has forgotten to logout. To set the timeout value, key in a number from 1–180 minutes, then press **[Enter]**. The default setting is 30 mins.
Beeper	Choices are **ON**, or **OFF.** When activated, the beeper sounds whenever a port is changed; when activating the Auto Scan function or an invalid entry is made on an OSD menu. The default is **ON**.

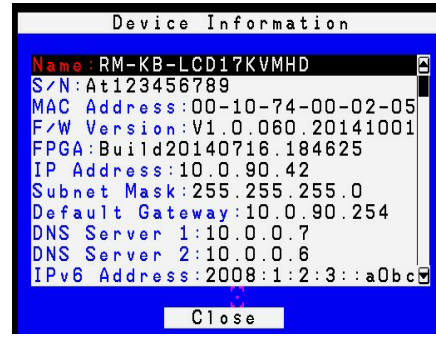
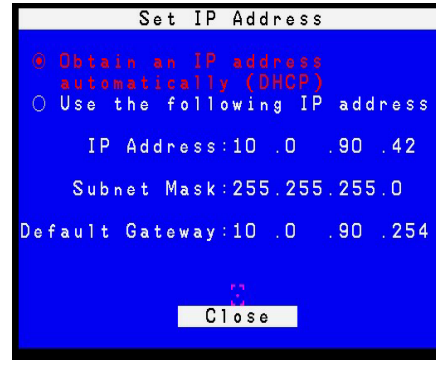
F4: ADM

F4 is an administrator only function. It allows the administrator to configure and control the overall operation of the OSD. To change a setting double-click it, or use the up and down arrow keys to move the highlight bar to it then press **[Enter]**.

After you select an item, a submenu with further choices to select from appears. Double-click an item, or move the highlight bar to it then press **[Enter]**. An icon appears before the selected item so that you know which one it is. The settings are explained in the following table:



	Function
Device Information	The Device Information page displays the name of the selected device, its firmware version, the FPGA (Field-Programmable-Gate-Array) and information about its network configuration.

	Function
	
Set IP Address	The KVM can either have its IP address assigned dynamically (DHCP), or it can be given a fixed IP address. **Obtain an IP address automatically (DHCP):** For dynamic IP address assignment, select the Obtain IP address automatically radio button. (This is the default setting.) **Use the following IP address:** To specify a fixed IP address, select the Set IP address manually radio button and fill in the fields with values appropriate for your network. 
K/M Broadcast	Keyboard and Mouse inputs can be duplicated on all the attached servers multiple computers, such as performing a system wide shutdown, installing or upgrading software, etc. The Default is **Disable.** ◆ If you enable Keyboard Broadcast, your keystrokes will be duplicated on all the attached servers that currently appear in the Sidebar. ◆ If you enable Mouse Broadcast, your mouse movements and clicks will be duplicated on all the attached servers that currently appear in the Sidebar.

	Function
Disable Dev Authentication	The function disables all local user accounts. User can only use the certificates user to login. (ex. RADIUS, LDAP, LDAPS, MS active Directory)
Clear Port Names	This function is clears the port name.
Reset Default Values	Clicking this button undoes all Customization page changes that have been made to the RM-KB-LCD17KVMHD switch and returns the parameters to the original factory default settings. The reset values include following items: **Security** ◆ Mode: Enable ICMP, Enable Multiuser Operation, Enable Virtual Media Write Operation, Browser Service, ◆ Login Failures: Allowed/ Timeout **Network** ◆ Network Transfer Rate reset to 99999 **Port Configuration** ◆ Device Level: Occupy timeout setting **Operating mode** ◆ ForceAll to Grayscale, Enable Client AP device list, Keyboard/ mouse Broadcast, Console Keyboard language **Port Level** ◆ Port Properties: Port OS, Access Mode, OS language

	Function
Reset on Exit	Place a check here to make the RM-KB-LCD17KVMHD) switch reset itself and implement all the new settings when you log out. If you clear the check mark before logging out, the changed settings will be ignored and the original IP Address settings will remain in effect. **Note:**Even though the changed IP settings are ignored, they still remain in the network settings fields. Which means that the next time you open this page, the reset on exit checkbox will automatically be enabled, and when the switch resets, the new IP settings that you thought you discarded will become the ones used by the switch. To avoid this problem, you should go back to the network settings page and be sure that the IP settings that appear in the fields are the ones you want to use.

F5: SCAN

Clicking the **F5** field, or pressing **[F5]** invokes Auto Scan mode. This function allows you to automatically switch among the available computers at regular intervals so that you can monitor their activity without having to take the trouble of switching yourself. To exit Auto Scan mode, press the **[Spacebar]** or **[Esc]**.

F7: Close OSD

Clicking the **F7** field, or pressing **[F7]** will exit the OSD display.

F8: Logout

Clicking the **F8** field, or pressing **[F7]** logs you out of OSD control of the computers, and blanks the console screen. This is different from simply pressing **[Esc]** when you are at the main screen to deactivate the OSD. With this function you must log in all over again to regain access to the OSD, whereas with **[Esc]**, all you have to do to reenter the OSD is tap the OSD hotkey.

Note:1. When you reenter the OSD after logging out, the screen stays blank except for the OSD main screen. You must input your username and password before you can continue.

2. If you reenter the OSD after logging out, and immediately use **[Esc]** to deactivate the OSD without having selected a port from the OSD

menu, a null port message displays on the screen. The OSD hotkey will bring up the main OSD screen.

Ctrl + T: Select Tree List

This function lets you broaden or narrow the scope of which ports the OSD displays on the main screen. The submenu choices and their meanings are given in the table below.

Ctrl + L: Select favorites

Select which favorites list that you want to find.

Ctrl + P: Toggle powered on

Lists only the ports that have their attached computers powered on.

Ctrl + F: Search Port Name

If you key in a search string and click Search, only port names that match the search string display in the tree.

Ctrl + E: Edit favorites

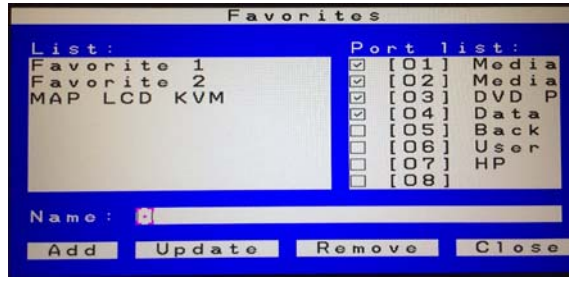
Adding a Favorite list

1. Key in the new Favorites list name in the highlight bar of **Name**.

2. Click **Add** to add a list at left menu.

3. To add a port:

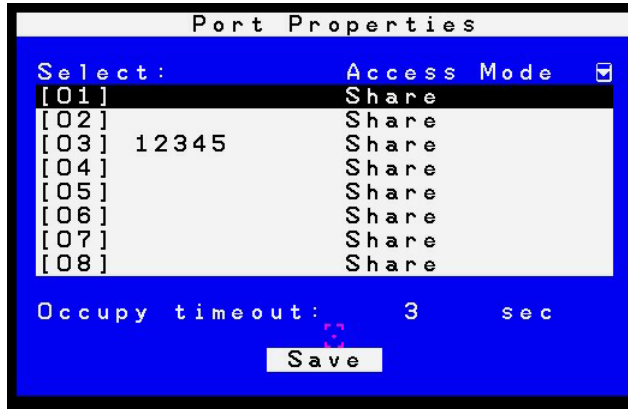
Move highlight bar to choice the favorite list you want. Select which port you want to add in the right menu, then click **Update**.



Ctrl + C: Port properties

The Port Properties page looks similar to the one below:

Access Mode:



- The *Port Properties* function allows you to make configuration settings for the selected port. Defines how the port is to be accessed when multiple users have logged on, as follows:
  - **Exclusive**: The first user to switch to the port has exclusive control over the port. No other users can view the port. The *Timeout* function does not apply to ports which have this setting.
  - **Occupy**: The first user to switch to the port has control over the port. However, additional users may view the port's video display. If the user who controls the port is inactive for longer than the time set in the *Timeout* box, port control is transferred to the first user to move the mouse or strike the keyboard.

- **Share**: Users simultaneously share control over the port. Input from the users is placed in a queue and executed chronologically. Under these circumstances, users can take advantage of the Message Board, which allows users to communicate with each other regarding control of the keyboard and mouse or keyboard, mouse, and video of a Share port.

Port OS:

Specifies the operating system that the server on the connected port is using. Choices are Win, Mac, Sun, and Other. The default is Win.

OS Language:

Specifies the OS language being used by the server on the connected port. Drop down the list to see the available choices. The default is US English.

Chapter 5
Keyboard Port Operation

Keyboard Operation

No.	Component	Description
1	Port Selection Buttons and LED 1~8	Port selection Press the Button number which you want to access port. Port LEDs The Port LEDs provide status information about their corresponding KVM Ports. ◆ ORANGE: The computer attached to the port is On Line. ◆ GREEN: The computer attached to the port is On Line and Selected.
2	Port Selection Buttons 1+ 2	Keyboard/ Mouse Reset. (Press the 2 buttons together about 5 sec.)
3	Port Selection Buttons 7+ 8	Auto Scan mode switching. (Press the 2 buttons together about 2 sec.) Auto Scan automatically switches among all the KVM ports that are accessible to the user at regular intervals, so that their activity can be monitored automatically.

No.	Component	Description
4	Lock LEDs	The Num Lock, Caps Lock, Scroll Lock LEDs
5	Reset	Press the recessed switch in with a thin object to perform a system reset.
6	KVM Hotkey	Invoking KVM Hotkey mode. ◆ [KVM Hotkey] + [A] [Enter] or [KVM Hotkey] + [Q] [Enter]: Invokes Auto Scan mode. ◆ [KVM Hotkey] + [B]: Toggles the beeper on or off.
7	KVM OSD	

Hotkey Summary Table

[KVM Hotkey]	**[A] [Enter] or [Q] [Enter]**	Invokes Auto Scan mode
[KVM Hotkey]	**[A] [Enter] or [Q] [Enter]**	Invokes Auto Scan mode
[KVM Hotkey]	**[B]**	Toggles the beeper on or off.
[Scroll Lock]	**[Scroll Lock]**	Invokes OSD Hotkey. [Scroll Lock] [Scroll Lock] is default setting. You can optionally change the OSD hotkey on OSD or Web GUI *User Preference (see Chapter 5. OSD Operation or Chapter 8. User Preference, OSD Hotkey)*
[Ctrl]	[Ctrl]	
[Alt]	[Alt]	
[Shift]	[Shift]	
[Print Screen]	[Print Screen]	

Chapter 6
Remote Logging In

Overview

RM-KB-LCD17KVMHD can be accessed from a local console; an internet browser; a Windows application (AP) program; and a Java application (AP) program.

No matter which access method you choose, the RM-KB-LCD17KVMHD authentication procedure requires you to submit a valid username and password. If you supply invalid login information, the authentication routine will return an *Invalid Username or Password*, or *Login Failed* message. If you see this type of message, log in again with a correct username and password.

Note: If the number of invalid login attempts exceeds a specified amount, a time out period is invoked. You must wait until the time out period expires before you can attempt to log in again.

Local Console Login

When the local console is attached and there is no user logged in, the RM-KB-LCD17KVMHD switch's login screen appears on the monitor:

Simply key in your valid Username and Password, then click **Login** to bring up the Local Console Main Page. The Local Console Main Page is similar to the Web Browser, WinClient and Java Client Main Pages.

Browser Login

RM-KB-LCD17KVMHD can be accessed via an Internet browser running on any platform. To access the switch, do the following:

1. Open the browser and specify the IP address of the switch you want to access in the browser's location bar.

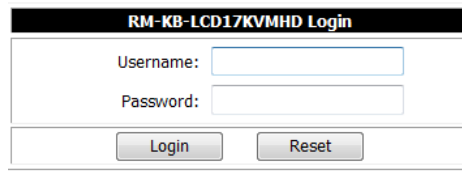
   Note: For security purposes, a login string may have been set by the administrator. If so, you must include a forward slash and the login string along with the IP address when you log in. For example:

   ```
   192.168.0.100/abcdefg
   ```

   If you don't know the IP address and login string, ask your Administrator.

2. When a Security *Alert* dialog box appears, accept the certificate – it can be trusted. If a second certificate appears, accept it as well.

   Once you accept the certificate(s), the login page appears:

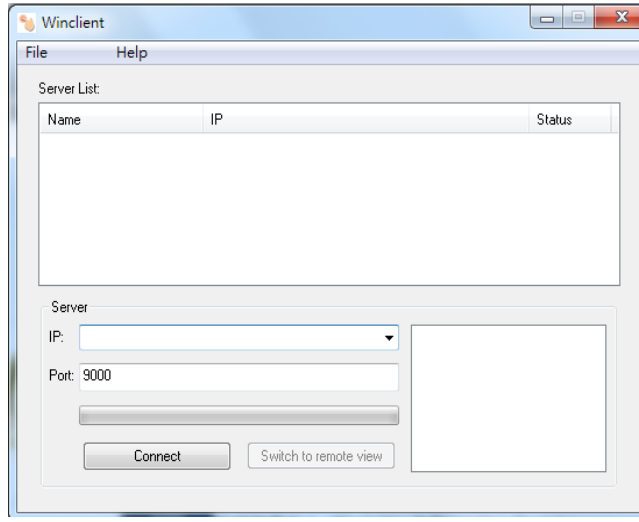


3. Provide your username and password (set by the administrator), then click **Login** to bring up the Web Main Page.

Windows Client AP Login

In some cases, the Administrator may not want the RM-KB-LCD17KVMHD to be available via browser access. The Windows AP Client allows direct remote access to Windows systems users, without having to go through a browser (although you initially download the Windows AP Client program from the browser page – see Chapter 13, *Download*).

To connect to the RM-KB-LCD17KVMHD, go to the location on your hard disk that you downloaded the Windows AP Client program to, and double-click its icon (*WinClient.exe*) to bring up the Windows Client Connection Screen:



The Windows Client AP Connection Screen

A description of the Connection Screen is given in the following table:

Item	Description
Menu Bar	The Menu Bar contains two items: File and Help. ◆ The *File Menu* allows the operator to Create, Save, and Open user created Work files ◆ The *Help Menu* displays the WinClient AP version.
Server List	Each time the WinClient.exe file is run, it searches the user's local LAN segment for RM-KB-LCD17KVMHD, and lists whichever ones it finds in this box. If you want to connect to one of these units, **double-click** it. **Note:** 1. The switch will not appear in the list unless its *Enable Device List* configuration parameter has been enabled. See *Connecting – Windows Client AP*, page 39 for details. 2. Only units whose Access Port settings for *Program* match the number specified for *Port* in the Server area of this dialog box appear in the Server List window.
Server	This area is used when you want to connect to a RM-KB-LCD17KVMHD at a remote location. You can drop down the IP list box and select an address from the list. If the address you want isn't listed, you can key in the target IP address in the IP field, and its port number in the Port field. (If you don't know the port number, contact your Administrator.) ◆ When the IP address and Port number have been specified, click **Connect**. ◆ When you have finished with your session and come back to this dialog box, click **Disconnect** to end the connection.
Message Panel	Located just to the right of the Server panel, the Message panel lists status messages regarding the connection to the RM-KB-LCD17KVMHD.
Switch to Remote View	Once you have been authenticated, this button becomes active. Click it to switch to the GUI Main Page.

Connecting – Windows Client AP

To connect to a RM-KB-LCD17KVMHD do the following::

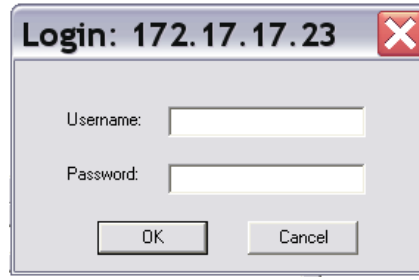
1. From the *Server List* box, **double-click** the device that you wish to connect to.

   – Or –

   Specify its IP address and port number in the *Server IP* and *Port* input boxes.

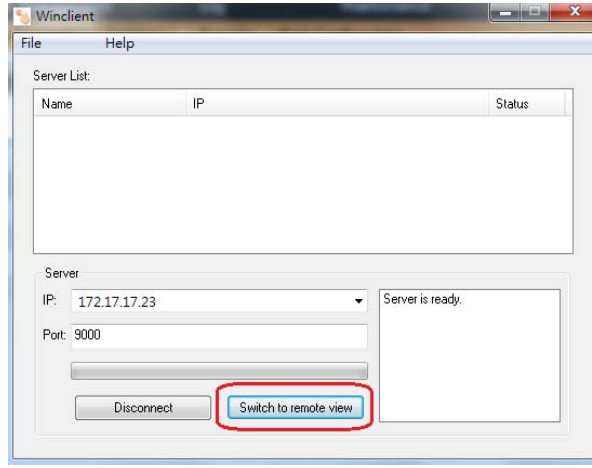
2. Click **Connect**.

   The *Login* dialog box appears:



3. Key in a valid Username and Password, and then click **OK**.

4. Once you have been authenticated, the *Switch to Remote View* button becomes active. Click it to connect to the switch and bring up its GUI Main Page.



The File Menu

The *File Menu* allows the operator to Create, Save, and Open user created Work files. A Work File consists of all the information specified in a Client session. This includes the Server List and Server IP list items, as well as the Hotkey settings.

Whenever a user runs the Client program, it opens with the values contained in the *current work file*. The current work file consists of the values that were in effect the last time the program was closed.

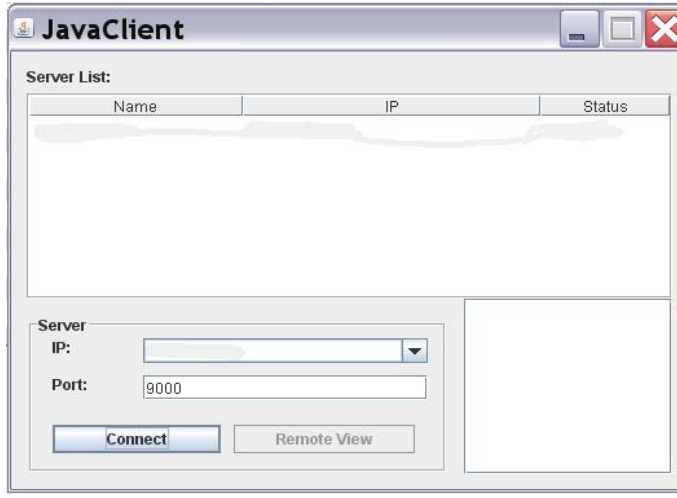
The File menu consists of the following items:

New	Allows the user to create a named work file so its values will not be lost, and it will be available for future recall.
Open	Allows the user to open a previously saved work file and use the values contained in it.
Save	Allows the user to save the values presently in effect as the *current work file*.
Exit	Exits the WinClient.

Java Client AP Login

In those cases in which the Administrator does not want the RM-KB-LCD17KVMHD to be available via browser access, but the local client users aren't running Windows, the Java AP Client provides direct remote access to non-Windows systems users (although you initially download the Java AP Client program from the browser page – see Chapter 13, *Download*).

To connect to the RM-KB-LCD17KVMHD, go to the location on your hard disk that you downloaded the Java AP Client program to, and double-click its icon (*JavaClient.jar*) to bring up the Java Client Connection Screen:



The Java Client AP Connection Screen

A description of the Connection Screen is given in the following table:

Item	Description
Server List	Each time the JavaClient.jar file is run, it searches the User's local LAN segment for RM-KB-LCD17KVMHD, and lists whichever ones it finds in this box. If you want to connect to one of these units, **double-click** it. **Note:** 1. The switch will not appear in the list unless its *Enable Device List* configuration parameter has been enabled. 2. Only units whose Access Port settings for *Program* match the number specified for *Port* in the Server area of this dialog box appear in the Server List window.
Server	This area is used when you want to connect to a RM-KB-LCD17KVMHD at a remote location. You can drop down the IP list box and select an address from the list. If the address you want isn't listed, you can key in the target IP address in the IP field, and its port number in the Port field. (If you don't know the port number, contact your Administrator.) ◆ When the IP address and Port number have been specified, click **Connect**. ◆ When you have finished with your session and come back to this dialog box, click **Disconnect** to end the connection.
Message Panel	Located just to the right of the Server panel, the Message panel lists status messages regarding the connection to the RM-KB-LCD17KVMHD.
Switch to Remote View	Once you have been authenticated, this button becomes active. Click it to switch to the GUI Main Page.

Connecting – Java Client AP

To connect to a RM-KB-LCD17KVMHD do the following::

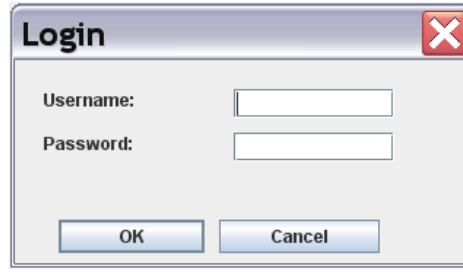
1. From the *Server List* box, **double-click** the device that you wish to connect to.

   – Or –

   Specify its IP address and port number in the *Server IP* and *Port* input boxes.

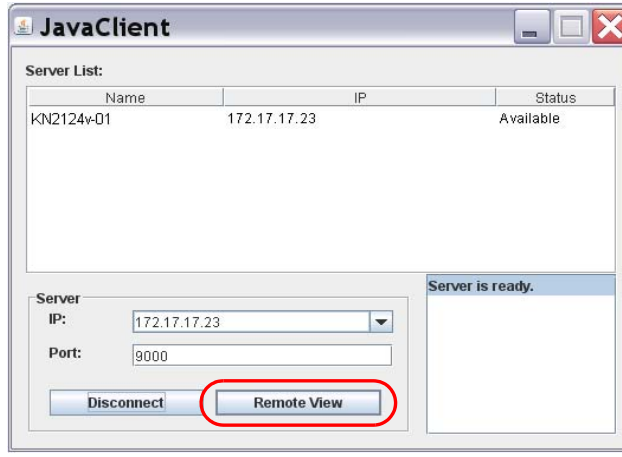
2. Click **Login**

   The *Login* dialog box appears:



3. Key in a valid Username and Password, and then click **OK**.

4. Once you have been authenticated, the *Remote View* button becomes active. Click it to connect to the switch and bring up its GUI Main Page. For a description of the GUI Main Page, see page 48.



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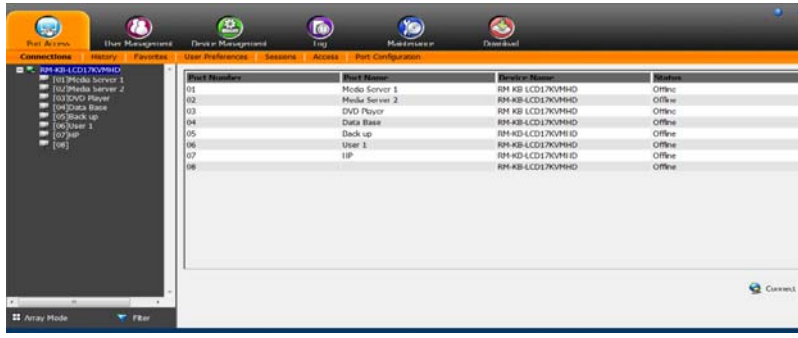
Chapter 7
Remote User Interface

Overview

Once you have successfully logged in, the RM-KB-LCD17KVMHD user interface Main Page appears. The look of the page varies slightly, depending on which method you used to log in. Each of the interfaces is described in the sections that follow.

The Web Browser Main Page

To ensure multi-platform operability, access to the RM-KB-LCD17KVMHD can be accomplished with most standard web browsers. Once users log in and are authenticated, the *Web Browser Main Page* comes up, with the Port Access page displayed:



Page Components

The web page screen components are described in the table, below:

No.	Item	Description
1	Tab Bar	The tab bar contains the RM-KB-LCD17KVMHD main operation categories. The items that appear in the tab bar are determined by the user's type, and the authorization options that were selected when the user's account was created.
2	Menu Bar	The menu bar contains operational sub-categories that pertain to the item selected in the tab bar. The items that appear in the menu bar are determined by the user's type, and the authorization options that were selected when the user's account was created.
3	Sidebar	The Sidebar provides a tree view listing of ports that relate to the various tab bar and menu bar selections. Clicking a node in the Sidebar brings up a page with the details that are relevant to it. There is a *Filter* button at the bottom of the Sidebar that lets you expand or narrow the scope of the ports that appear in the tree.
4	About	About provides information regarding the switch's current firmware version.
5	Logout	Click this button to log out of your RM-KB-LCD17KVMHD session.
6	Welcome Message	If this function is enabled a welcome message displays here.
7	Interactive Display Panel	This is your main work area. The screens that appear reflect your menu choices and Sidebar node selection.

The Tab Bar

The number and type of icons that appear on the Tab Bar at the top of the page are determined by the user's type (Super Administrator, Administrator, User) and the permissions assigned when the user's account was created. The functions associated with each of the icons are explained in the table below:

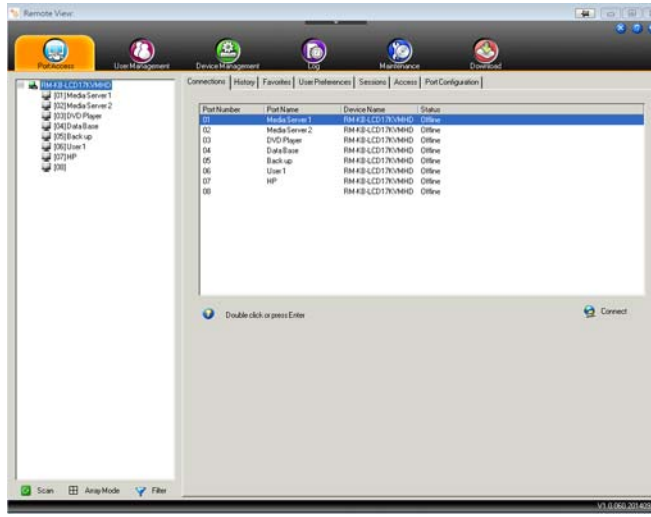
Icon	Function
	Port Access: The Port Access page is used to access and control the devices on the RM-KB-LCD17KVMHD installation. This page is available to all users.
	User Management: The User Management page is used to create and manage Users and Groups. It can also be used to assign devices to them. This tab is available to the Super Administrator, as well as administrators and users who have been given User Management permission. The tab doesn't appear for other administrators and users.
	Device Management: The Device Management page is used to configure and control the overall operation of the RM-KB-LCD17KVMHD. This page is available to the Super Administrator, as well as administrators and users who have been given Device Management permission. The tab doesn't appear for other administrators and users.
	Log: The Log page displays the contents of the log file.
	Maintenance: The Maintenance page is used to install new firmware; backup and restore configuration and account information; ping network devices; and restore default values. This page is available to the Super Administrator (and Administrators and Users with *Maintenance* permission). The icon doesn't display on the page of ordinary administrators and users.
	Download: Users can click this icon to download AP versions of the Windows Client; the Java Client; and the Log Server. This page is available to all users. The programs that can be downloaded depend on the user's permissions.

There are two small icons at the extreme right of the page. Their functions are described in the table, below:

Icon	Function
	Click this icon to brings up a panel with information about the RM-KB-LCD17KVMHD firmware version.
	Click this icon to log out and end your RM-KB-LCD17KVMHD session.

The AP GUI Main Page

With WinClient AP, and Java Client AP access, once users log in, the *GUI Main Page* comes up:



The GUI Main Page is similar to that of the Web Browser. The differences between them are as follows:

1. The AP GUI version doesn't have a menu bar below the tab bar; it has a series of tabs like a notebook, instead. Like the Web Browser interface, however, the makeup of the tabbed notebook changes depending on the items selected on the main Tab Bar and in the Sidebar.
2. In addition to *Filter*, there are also buttons for *Scan* and *Array Mode* at the bottom of the Sidebar.
3. There is a hidden *Control Panel* at the upper or lower center of the screen that becomes visible when you mouse over it. (The default is at the upper center of the screen.)
4. There is an additional icon at the extreme right of the page: . Click this icon to close the GUI Main Page and go to the display of the last selected port.

The Control Panel

WinClient Control Panel

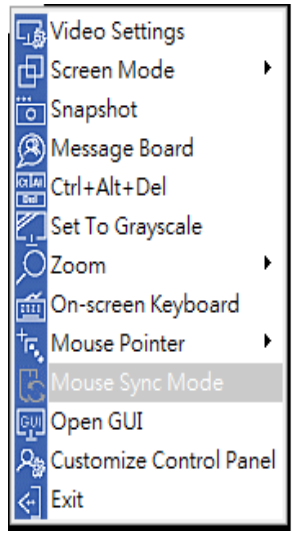
Since the WinClient Control Panel (for the ActiveX Web Viewer and WinClient AP) contains the most complete functionality, this section describes the WinClient Control Panel. Although the Java Control Panel (for the Web Viewer and Java Client AP) does not enable all of the features that this one does, the functions that they do share are the same, and you can refer to the information described here when using it.

The Control Panel is hidden at the upper or lower center of the screen (the default is at the upper center), and becomes visible when you mouse over it. The panel consists of three rows: an icon row at the top, and two text rows below it:

Note: The above image shows the complete Control Panel. The icons that appear can be user selected.

- By default, the upper text row shows the video resolution of the remote display. As the mouse pointer moves over the icons in the icon bar, however, the information in the upper text row changes to describe the icon's function.

- Right clicking in the text row area brings up a menu-style version of the toolbar. In addition, it allows you to select options for the *Zoom*, *Mouse Pointer*, and *Mouse Sync Mode*. These functions are discussed in the sections that follow.



- To move the Control Panel to a different location on the screen, place the mouse pointer over the text row area, then click and drag.

WinClient Control Panel Functions

The Control Panel functions are described in the table below.

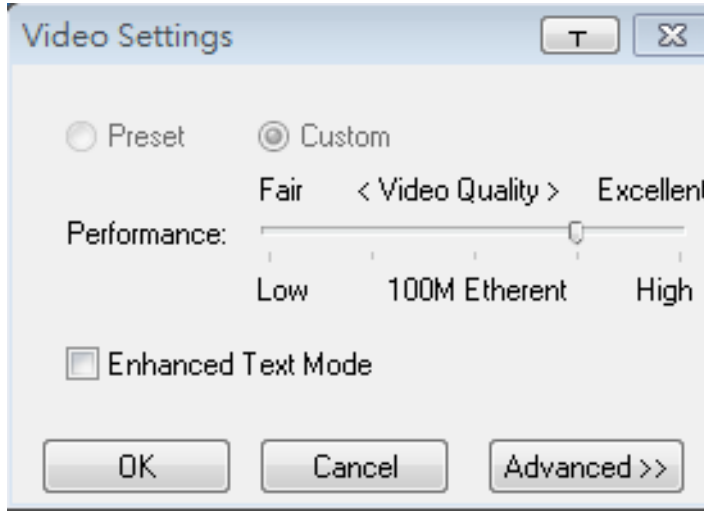
Icon	Function
	This is a toggle. Click to make the Control Panel persistent – i.e., it always displays on top of other screen elements. Click again to have it display normally.
	Click to bring up the Video Options dialog box. Right-click to perform a quick Auto Sync (see *Video Settings*, page 53, for details).
	Toggles the display between *Full Screen Mode* and *Windowed Mode*.
	Click to take a snapshot (screen capture) of the remote display. See *Snapshot*, page 66, for details on configuring the Snapshot parameters.
	Click to bring up the Message Board.
	Click to send a Ctrl+Alt+Del signal to the remote system.
	Click to toggle the remote display between color and gray scale views.
	Click to zoom the remote display window. **Note:** This feature is only available in windowed mode (Full Screen Mode is off).
	Click to bring up the on-screen keyboard.
	Click to select the mouse pointer type. **Note:** This icon changes depending on which mouse pointer type is selected.
	Click to toggle Automatic or Manual mouse sync.
	Under an accessed port, click to skip to the first port accessible to the user on the entire installation without having to recall the Port Access page.
	Under an accessed port, click to skip to the first port accessible to the user that is previous to the current one without having to recall the Port Access page.

	Under an accessed port, click to skip to the first port accessible to the user that is after the current one without having to recall the Port Access page.
	Under an accessed port, click to skip to the last port accessible to the user on the entire installation without having to recall the Port Access page.
	Under an accessed port, click to begin Auto Scan Mode. The RM-KB-LCD17KVMHD automatically switches among the ports that were selected for Auto Scanning with the *Filter* function. This allows you to monitor their activity without having to switch among them manually.
	Under an accessed port, click to invoke Panel Array Mode.
	Under an accessed port, click to recall the GUI.
	Click to bring up the Control Panel Configuration dialog box.
	Click to exit the viewer. ◆ Exiting from a Browser Viewer session brings you back to the web browser Main Page. ◆ Exiting from a WinClient AP session brings you back to the login dialog box. ◆ Exiting from a Java Client AP session brings you back to the login dialog box.
	These icons show the Num Lock, Caps Lock, and Scroll Lock status of the remote computer. ◆ When the lock state is *On*, the LED is bright green and the lock hasp is closed. ◆ When the lock state is *Off*, the LED is dull green and the lock hasp is open. Click on the icon to toggle the status. **Note:** These icons and your local keyboard icons are in sync. Clicking an icon causes the corresponding LED on your keyboard to change accordingly. Likewise, pressing a Lock key on your keyboard causes the icon's color to change accordingly.

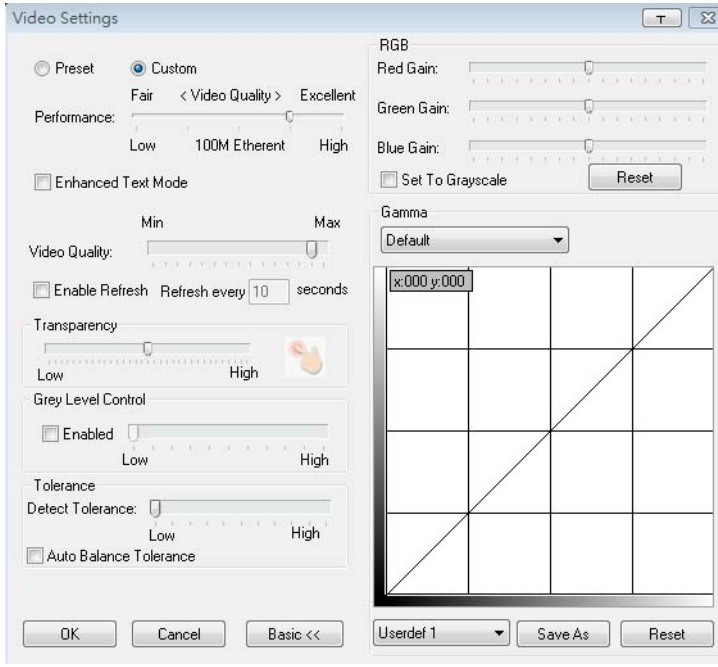
Video Settings

Clicking the *Hammer* icon on the Control Panel brings up the *Basic Video Settings* dialog box with basic settings. The options in the basic dialog box allow you to adjust the Screen Position, set Auto-Sync, and slide the Performance bar setting. Selecting the *Advanced* button opens the *Advanced Video Settings* dialog box, providing more detailed options including; RGB, Gamma, Video Quality, Enable Refresh, Transparency, Color Depth Control, and Detect Tolerance settings, as shown below:

Basic Video Settings



Advanced Video Settings



The meanings of the video adjustment options are given in the table:

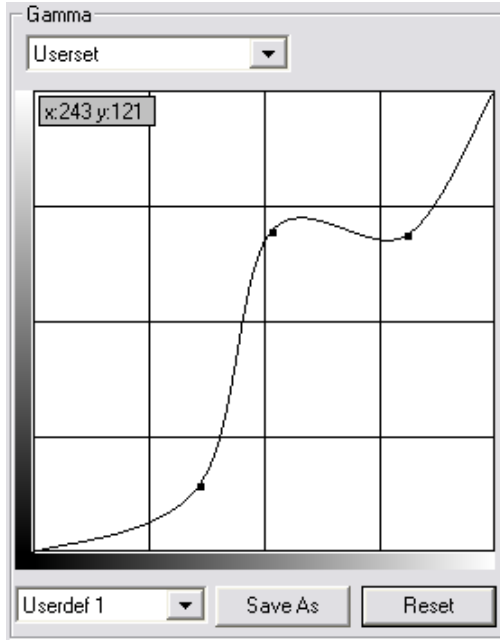
Options	Usage
RGB	Drag the slider bars to adjust the RGB (Red, Green, Blue) values. When a RGB value is increased, the RGB component of the image is correspondingly increased. If you enable *Set to Grayscale*, the remote video display is changed to grayscale. Clicking the *Reset* button brings the RGB settings back their default values.
Gamma	This section allows you to adjust the video display's gamma level. This function is discussed in detail in the next section, *Gamma Adjustment*.

Options	Usage
Performance	Use the slide bar to select the type of internet connection that the local client computer uses. The switch will use that selection to automatically adjust the *Video Quality* and *Detect Tolerance* settings to optimize the quality of the video display. Since network conditions vary, if none of the pre-set choices seem to work well, you can select *Advanced* and use the Video Quality and Detect Tolerance slider bars to adjust the settings to suit your conditions.
Video Quality	Drag the slider bar to adjust the overall Video Quality. The larger the value, the clearer the picture and the more video data goes through the network. Depending on the network bandwidth, a high value may adversely effect response time.
Enable Refresh	The RM-KB-LCD17KVMHD can redraw the screen every 1 to 99 seconds, eliminating unwanted artifacts from the screen. Select **Enable Refresh** and enter a number from 1 through 99. The RM-KB-LCD17KVMHD will redraw the screen at the interval you specify. This feature is disabled by default. Click to put a check mark in the box next to *Enable Refresh* to enable this feature. **Note:** 1. The switch starts counting the time interval when mouse movement stops. 2. Enabling this feature increases the volume of video data transmitted over the network. The lower the number specified, the more often the video data is transmitted. Setting too low a value may adversely affect overall operating responsiveness.
Transparency	Adjusts the transparency of the toolbar that comes up when the GUI hotkey ([Scroll Lock][Scroll Lock], for example), is invoked. Slide the bar until the display in the example window is to your liking.
Detect Tolerance	This setting also relates to video quality. It governs detecting or ignoring pixel changes. A high setting can result in a lower quality display due to less data transfer. A lower setting will result in better video quality, but setting the threshold too low may allow too much data to be transferred, negatively impacting network performance. Selecting the *Auto Balance Tolerance* check box allows the switch to automatically detect and adjust the tolerance settings according to pixel changes as they occur.
Preset / Custom	Using the Preset and Custom buttons allow you to set and save custom video settings, and revert back to default video settings.

Gamma Adjustment

If it is necessary to correct the gamma level for the remote video display, use the *Gamma* function of the Video Settings dialog box.

- Under *Advanced* configuration, there are ten preset and four user-defined levels to choose from. Drop down the list box and choose the most suitable one.
- For greater control, clicking the *Advanced* button brings up the following dialog box:

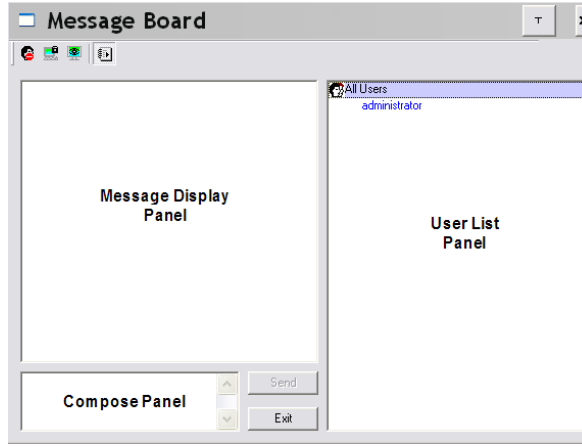


- Click and drag the diagonal line at as many points as you wish to achieve the display output you desire.
- Click **Save As** to save up to four user-defined configurations derived from this method. Saved configurations can be recalled from the list box at a future time.
- Click **Reset** to abandon any changes and return the gamma line to its original diagonal position.
- Click **OK** to save your changes and close the dialog box.
- Click **Cancel** to abandon your changes and close the dialog box.

Note: For best results, change the gamma while viewing a remote server.

The Message Board

The RM-KB-LCD17KVMHD supports multiple user logins, which may cause access conflicts. To alleviate the problem, a message board has been provided, which allows users to communicate with each other:



Button Bar

The buttons on the Button Bar are toggles. Their actions are described in the table below:

Button	Action
	Enable/Disable Chat. When disabled, messages posted to the board are not displayed. The button is shadowed when Chat is disabled. The icon displays next to the user's name in the User List panel when the user has disabled Chat.
	Occupy/Release Keyboard/Video/Mouse. When you Occupy the KVM, other users cannot see the video, and cannot input keyboard or mouse data. The button is shadowed when the KVM is occupied. The icon displays next to the user's name in the User List panel when the user has occupied the KVM.
	Occupy/Release Keyboard/Mouse. When you Occupy the KM, other users can see the video, but cannot input keyboard or mouse data. The button is shadowed when the KM is occupied. The icon displays next to the user's name in the User List panel when the user has occupied the KM.
	Show/Hide User List. When you Hide the User List, the User List panel closes. The button is shadowed when the User List is open.

Message Display Panel

Messages that users post to the board - as well as system messages - display in this panel. If you disable Chat, however, messages that get posted to the board won't appear.

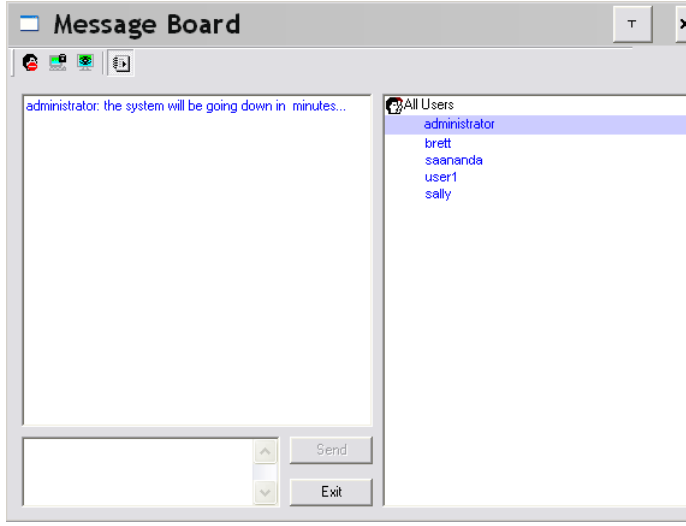
Compose Panel

Key in the messages that you want to post to the board in this panel. Click **Send**, or press [**Enter**] to post the message to the board.

User List Panel

The names of all the logged in users are listed in this panel.

- Your name appears in blue; other users' names appear in black.
- By default, messages are posted to all users. To post a message to one individual user, select the user's name before sending your message.
- If a user's name is selected, and you want to post a message to all users, select All Users before sending your message.
- If a user has disabled Chat, its icon displays before the user's name to indicate so.
- If a user has occupied the KVM or the KM, its icon displays before the user's name to indicate so.



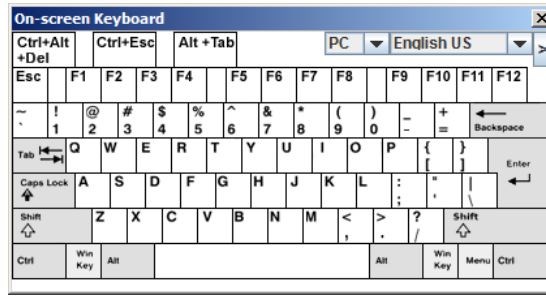
Zoom

The Zoom icon controls the zoom factor for the remote view window. Settings are as follows:

Setting	Description
100%	Sizes and displays the remote view window at 100%.
75%	Sizes and displays the remote view window at 75%.
50%	Sizes and displays the remote view window at 50%.
25%	Sizes and displays the remote view window at 25%.
1:1	Sizes and displays the remote view window at 100%. The difference between this setting and the 100% setting is that when the remote view window is resized its contents don't resize – they remain at the size they were. To see any objects that are outside of the viewing area move the mouse to the window edge, to have the screen scroll.

The On-Screen Keyboard

The RM-KB-LCD17KVMHD supports an on-screen keyboard, available in multiple languages, with all the standard keys for each supported language. Click this icon to pop up the on-screen keyboard:



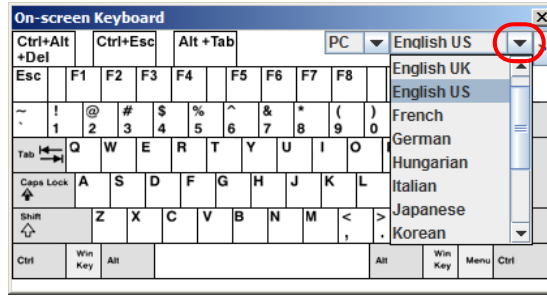
One of the major advantages of the on-screen keyboard is that if the keyboard languages of the remote and local systems aren't the same, you don't have to change the configuration settings for either system. Just bring up the on-screen keyboard; select the language used by the server you are accessing; and use the on-screen keyboard to communicate with it.

Note: You must use your mouse to click on the keys. You cannot use your actual keyboard.

Changing Languages

To change languages, do the following:

1. Click the down arrow next to the currently selected language, to drop down the language list.

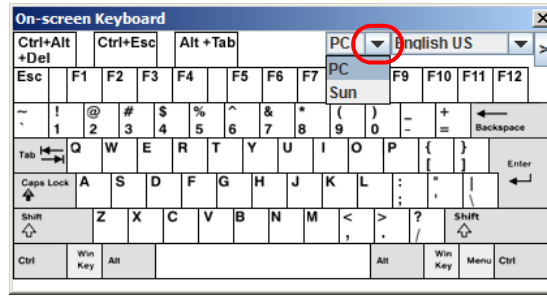


2. Select the new language from the list.

Selecting Platforms

The On-screen Keyboard supports the Sun platform as well as the PC. To select the platform, do the following:

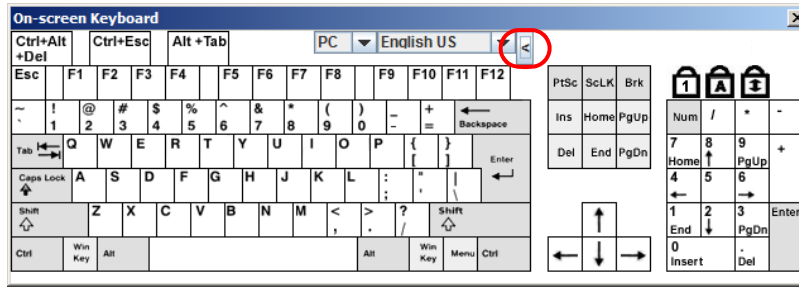
1. Click the down arrow next to the currently selected platform, to drop down the platform list.



2. Select the new platform from the list.

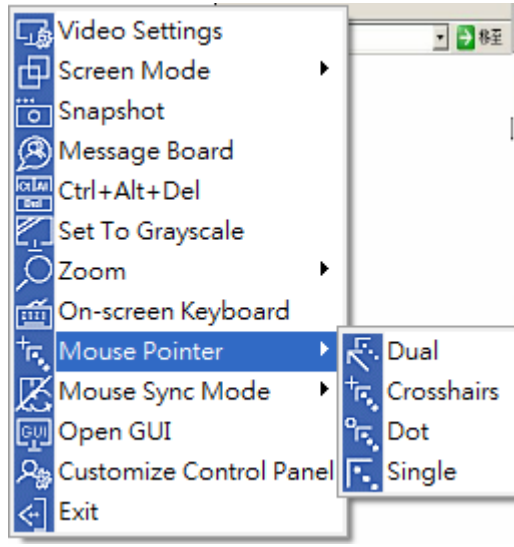
Expanded Keyboard

To display/hide the expanded keyboard keys, click the arrow to the right of the language list arrow.



Mouse Pointer Type

RM-KB-LCD17KVMHD offer a number of mouse pointer options when working in the remote display. Click this icon to select from the available choices:



Note: 1. Before accessing a port, only Dual and Crosshairs are available for the Windows Viewers. Once the port is accessed, three pointers are available.

2. The Dot pointer is not available with the Java Applet Viewer or the Java Client AP.
3. Selecting the Single pointer has the same effect as the *Toggle mouse display* hotkey function.
4. The icon on the Control Panel changes to match your choice.

Mouse DynaSync Mode

Synchronization of the local and remote mouse pointers is accomplished either automatically or manually.

Automatic Mouse Synchronization (DynaSync)

Mouse DynaSync provides automatic locked-in synching of the remote and local mouse pointers – eliminating the need to constantly resync the two movements.

Note: This feature is only available for Windows and Mac systems (G4 and higher) whose adapter attribute OS setting is configured for Win or Mac.

All other configurations must use manual mouse synchronization (described in the next section).

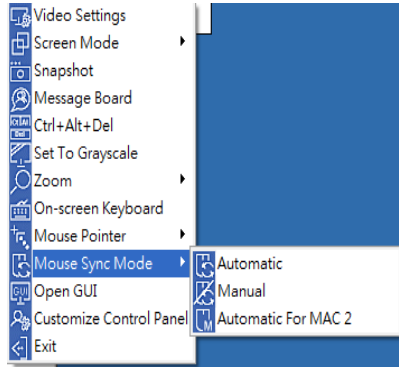
The icon on the Control Panel indicates the synchronization mode status as follows:

Icon	Function
	Automatic Mode
	Manual Mode
	Automatic for MAC

When *Mouse DynaSync* is available, clicking the icon toggles its status between enabled and /disabled. If you choose to disable Mouse DynaSync mode, you must use the manual synching procedures.

Mac and Linux Considerations

- For Mac OS versions 10.4.11 and higher, there is a second DynaSync setting to choose from. If the default Mouse DynaSync result is not satisfactory, try the **Mac 2** setting. To select Mac 2, right click in the text area of the Control Panel and select *Mouse Sync Mode* → *Automatic for Mac 2*:



- Linux doesn't support DynaSync Mode, but there is a setting on the Mouse Sync Mode menu for Redhat AS3.0 systems. If you are using a USB Adapter Cable (see the Note on the previous page), with an AS3.0 system and the default mouse synchronization is not satisfactory, you can try the Redhat AS3.0 setting. In either case, you must perform the manual mouse synchronization procedures described in the next section.

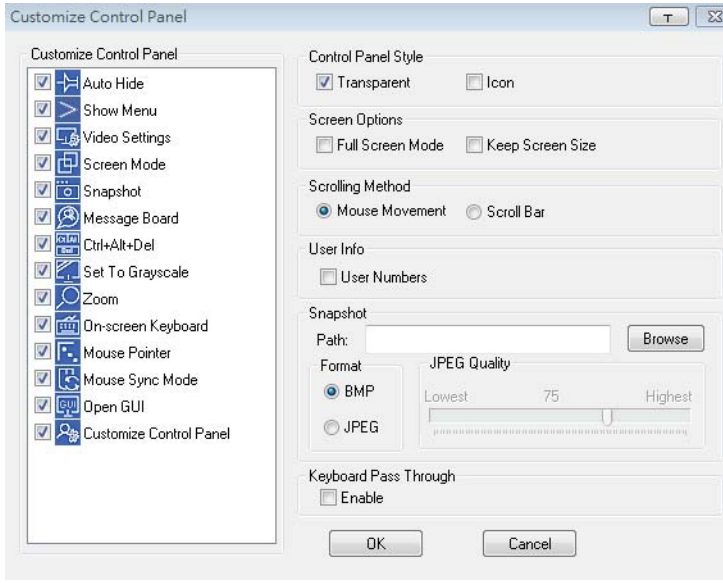
Manual Mouse Synchronization

If the local mouse pointer goes out of sync with the remote system's mouse pointer there are a number of methods to bring them back into sync:

1. Perform a video and mouse auto sync by clicking the *Video Settings* icon on the Control Panel.
2. Perform an *Auto Sync* with the Video Adjustment function.
3. Invoke the *Adjust Mouse* function with the *Adjust Mouse* hotkeys.
4. Move the pointer into all 4 corners of the screen (in any order).
5. Drag the Control Panel to a different position on the screen.
6. Set the mouse speed and acceleration for each problematic server attached to the switch.

Control Panel Configuration

Clicking the *Control Panel* icon brings up a dialog box that allows you to configure the items that appear on the Control Panel, as well as its graphical settings:



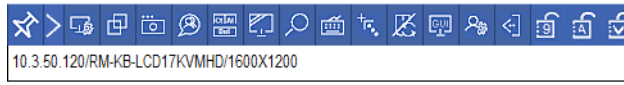
The organization of the dialog box is described in the table, below:

Item	Description
Customize Control Panel	Allows you to select which icons display in the Control Panel. Check the ones you want to see, uncheck the ones you don't want.
Control Panel Style	◆ Enabling *Transparent* makes the Control Panel semi-transparent, so that you can see through it to the display underneath. ◆ Enabling *Icon* causes the Control Panel to display as an icon until you mouse over it. When you mouse over the icon, the full panel comes up.

Item	Description
Screen Options	◆ If *Full Screen Mode* is enabled, the remote display fills the entire screen. ◆ If *Full Screen Mode* is not enabled, the remote display appears as a window on the local desktop. If the remote screen is larger than what is able to fit in the window, move the mouse pointer to the screen border that is closest to the area you want to view and the screen will scroll. ◆ If *Keep Screen Size* is enabled, the remote screen is not resized. ◆ If the remote resolution is smaller than that of the local monitor, its display appears like a window centered on the screen. ◆ If the remote resolution is larger than that of the local monitor, its display is centered on the screen. To access the areas that are off screen, move the mouse to the corner of the screen that is closest to the area you want to view and the screen will scroll. ◆ If *Keep Screen Size* is not enabled, the remote screen is resized to fit the local monitor's resolution.
Scrolling Method	In cases where the remote screen display is larger than your monitor, you can choose how to scroll to the areas that are off-screen. ◆ If you select *Mouse Movement*, the screen will scroll when you move the mouse pointer to your screen border. ◆ If you select *Scroll Bars*, scroll bars appear around the screen borders that you can use to scroll to the off-screen areas.
Bus Info	If *Bus Info* is enabled, the number of the bus you are on, as well as the total number of users on the bus, displays on the bottom row center of the Control Panel as follows: Bus No./Total Users.
Snapshot	These settings let the user configure the RM-KB-LCD17KVMHD screen capture parameters: ◆ Path lets you select a directory that the captured screens automatically get saved to. Click **Browse**; navigate to the directory of your choice; then click **OK**. If you don't specify a directory here, the snapshot is saved to your desktop. ◆ Click a radio button to choose whether you want the captured screen to be saved as a BMP or a JPEG (JPG) file. ◆ If you choose JPEG, you can select the quality of the captured file with the slider bar. The higher the quality, the better looking the image, but the larger the file size.
Keyboard Pass Through	When this is enabled, the Alt-Tab key press is passed to the remote server and affects that server. If it is not enabled, Alt-Tab acts on your local client computer.

The Java Control Panel

The Java Applet Viewer and Java Client AP Control Panel is similar to the one used by the WinClient:



The major differences between them are:

- In the Macros dialog box, *Toggle Mouse Display* is not available.
- The *Dot* mouse pointer type is not available.
- In the Message Board, there is no *Show/ Hide* button to show or hide the user list. This function is achieved by clicking the arrows at the top of the bar that separates the User List panel from the Main panel.

- In Virtual Media, only ISO and Folder are supported.
- The Control Panel *Lock LED* icons are not in sync with your keyboard. When you first connect, the LED display may not be accurate. To be sure, click on the LED icons to set them.
- In *Control Panel Configuration*, the BMP Snapshot format has been replaced by PNG.

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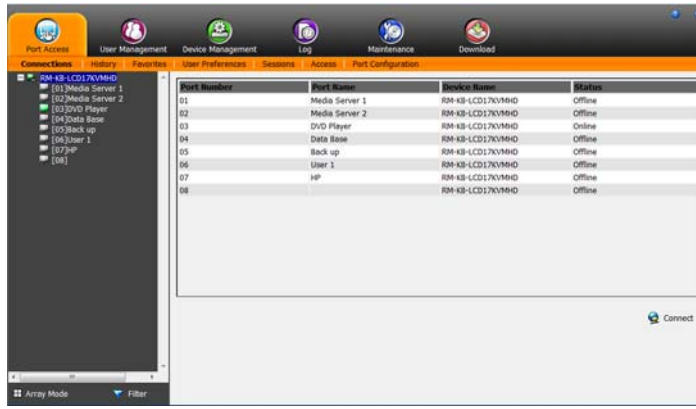
Chapter 8
Remote Port Access

Overview

When you log in to the switch the *Port Access* page comes up with the *RM-KB-LCD17KVMHD* KVM *Connections* page displayed.

Browser GUI



The Connections page is organized into several main areas. All the devices, ports, and outlets that a user is permitted to access are listed in the Sidebar at the left of the page.

After selecting a device, port, or outlet in the Sidebar, clicking entries on the menu bar (Browser GUI) or tab bar (AP GUI) opens information and configuration pages related to the item selected in the Sidebar.

The Sidebar

All Servers are listed in a tree structure in the Sidebar at the left of the screen:

The Sidebar Tree Structure

The characteristics of the Sidebar tree structure are the following:

- Users are only allowed to see the devices and ports/outlets that they have access permission for.
- A port's ID number is displayed in brackets next to its icon. The ports can also be named.
- Switches and ports that are on line have their monitor screen icons in Green; the monitor screens are Gray for devices and ports that are offline.
- Outlets that are *On* have their icons in Amber; the icons are Gray for outlets that are *Off*.
- To access and operate a port, double click its icon. Port operation details are discussed in Chapter 14, *Port Operation*.

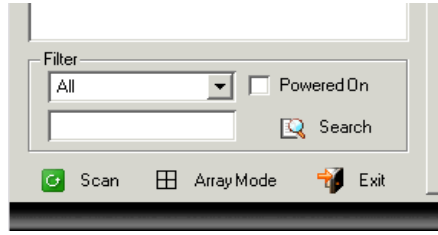
Array

Array is found at the bottom of the AP GUI Sidebar. It represents another way of monitoring port activity. Under this function your screen is divided into a grid of panels, with each panel showing the video display of a particular port. Only ports that are visible in the Sidebar (see Filter, below), and that are on line are displayed – all other ports are blank.

Note: This item doesn't appear at the bottom of the Sidebar in the Browser version. In that version, you must invoke it from the port's *Toolbar.*

Filter

Filter allows you to control the number and type of ports that display in the Sidebar, as well as which ports get scanned when Auto Scan and Array Modes are invoked (see *Scan* and *Array*, above). When you click *Filter*, the bottom of the panel changes to look similar to the image, below:



The meanings of the choices are explained in the following table:

Choices	Explanation
All	This is the default view. With no other filter options selected, all of the ports that are accessible to the user are listed in the Sidebar. If any *Favorites* have been specified, you can drop down the list box and select Favorites instead of All. If you select Favorites, only the items you have selected as Favorites display in the tree.
Powered On	If you enable *Powered On* (by putting a check in the checkbox) only the ports that have their attached devices powered on display in the tree.
Search	If you key in a search string and click **Search**, only port names that match the search string display in the tree. Wildcards (? for single characters; * for multiple characters) and the keyword **or** are supported, so that more than one port can show up in the list. For example: 1. If you key in **Web***, both Web Server 1 and Web Server 2 show up in the list. 2. If you key in **W*1 or M*2**, both Web Server 1 and Mail Server 2 show up in the list.
Exit	Clicking **Exit** closes the filter dialog.

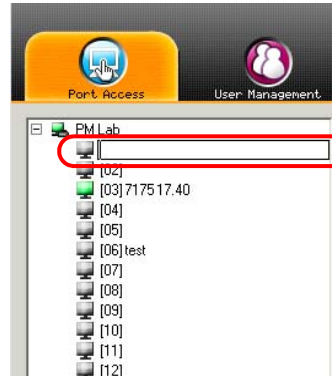
Port/Outlet Naming

For convenience – especially in large installations with many devices, ports and outlets – administrators and users with port configuration permission, can give each port or outlet a name. To assign, modify or delete a name, do the following:

1. Click once on the item you want to edit; wait a second; then click again.

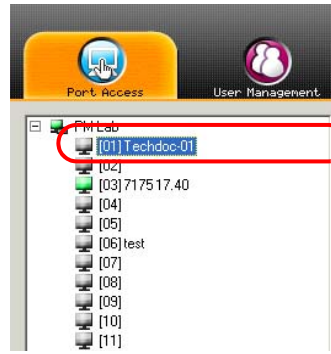
Note: This is not a double click. It involves two separate clicks. A double click will switch you to the device attached to the port.

After a second or two, the field changes to provide a text input box:



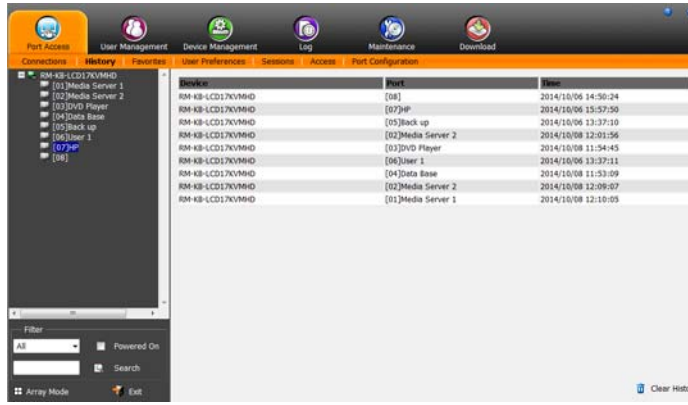
2. Key in a name for the item (or change/delete a previous one).
   - You can use any combination of letters, numbers, and symbols on the typewriter keys of keyboards with PC US English layout. In this case, the maximum number of characters allowed is 20.
   - You can also activate your local IME to input non-English characters. For languages that use 2 byte encoding, the maximum number of characters allowed is 9.

3. When you have finished editing the name, press **[Enter]** or click anywhere outside of the input box to complete the operation.



History

The History page provides a record of each time that a port was accessed. It provides quick access to the most recently used ports. You can access a port shown in the main panel by double clicking it.



- If there are more entries than there is room on the screen, a scroll bar appears to let you scroll up and down to see the entire record.
- To clear the record and start over, click the *Clear History* button at the bottom right of the page.

Note: You can change the sort order of the information displayed by clicking the column headings.

Favorites

The *Favorites* page is similar to a bookmarks feature. Ports that you frequently access can be saved in a list here. Simply open this page and select the port – rather than hunting for it in the Sidebar. This feature is especially handy on large, crowded installations:

Adding a Favorite

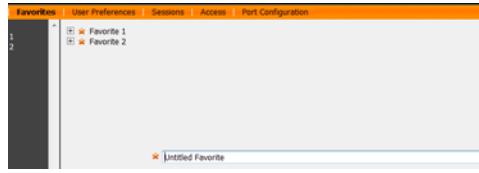
To add a port to the favorites, do the following:

1. Right click in the main panel; click **Add Favorite**.

   – or –

   Click **Add** at the bottom left of the main panel.

   An *Untitled Favorite* entry appears:



2. This will be a container to hold your port entries. Click inside the text entry box to erase *Untitled Favorite* and key in an appropriate name, then click on any empty space in the main panel.

3. To add a port:

   Drag it from the Sidebar and drop it onto the container

   – or –

   Right Click on it in the Sidebar; select **Copy**. Right click on the container; select **Paste**.

   – or –

   Select the container in the main panel; select the port in the Sidebar; then click **Add to** at the bottom of the main panel.

   The switch that the port belongs to is added to the container; the selected port is appended under the switch.

   Note: To add multiple ports at the same time, hold the Shift or Ctrl key down while you make your Sidebar selections then drag or copy the entire group to the Favorites panel.

4. Repeat step 3 for any other *Favorite* categories you wish to create

Note: Favorites can be selected for filtering in the Sidebar.

Modifying a Favorite

- To modify a Favorite, or one of the items contained in it, right click on it, then select a choice from the popup menu that appears.
- To edit a Favorite's name:

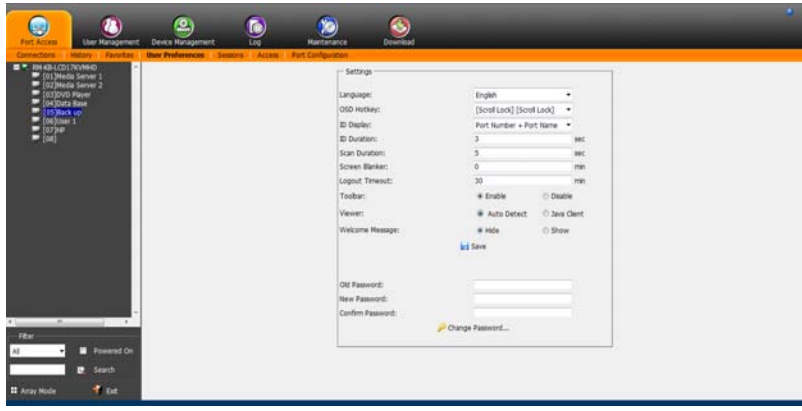
  Click on it once, wait a second, then click again. You can edit the name after the display changes to provide a text input box, This is the same procedure as the one described for port naming.

  – or –

  Select the Favorite in the main panel, then click **Modify** at the bottom of the main panel.

User Preferences

The *User Preferences* page allows users to set up their own, individual, working environments. The switch stores a separate configuration record for each user profile, and sets up the working configuration according to the *Username* that was keyed into the Login dialog box:



The page settings are explained in the following table:

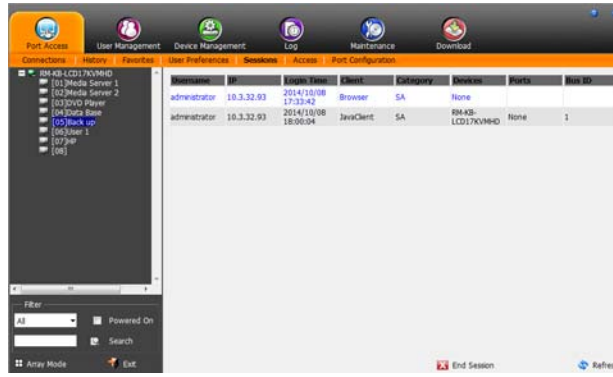
Setting	Function
Language	Selects the language that the interface displays in.
OSD Hotkey	Selects which Hotkey controls the GUI function: [Scroll Lock] [Scroll Lock] is the default. To select a different combination, click the arrow at the right of the box to drop down the list of choices.
ID Display	Selects how the Port ID is displayed: the Port Number alone (PORT NUMBER); the Port Name alone (PORT NAME); or the Port Number plus the Port Name (PORT NUMBER + PORT NAME). The default is PORT NUMBER + PORT NAME.
ID Duration	Determines how long a Port ID displays on the monitor after a port change has taken place. You can choose an amount from 1—255 seconds. The default is 3 Seconds. A setting of 0 (zero) means the Port ID is always on.

Setting	Function
Scan Duration	Determines how long the focus dwells on each port as it cycles through the selected ports in Auto Scan Mode. Key in a value from 1—255 seconds. The default is 5 seconds; a setting of 0 disables the Scan function.
Screen Blanker	If there is no input from the console for the amount of time set with this function, the screen is blanked. Key in a value from 1—30 minutes. A setting of 0 disables this function. The default is 0 (disabled). **Note:** Although this function can be set from either the local console or a remote login, it only affects the local console monitor.
Logout Timeout	If there is no user input for the amount of time set with this function, the user is automatically logged out. A login is necessary before the RM-KB-LCD17KVMHD can be accessed again.The default is 30 minutes.
Toolbar	Selects whether or not the Port Toolbar is enabled when a port is accessed. Since the Toolbar functions are also available from the GUI Control Panel, you may prefer to disable it here.
Viewer*	You can choose which viewer is used when accessing a server: ◆ **Auto Detect** will select the appropriate viewer based on the web browser used; WinClient for Windows Internet Explorer, Java Client for other web browsers (ex. Firefox). ◆ **Java Client** will open the Java based viewer regardless of the web browser being used.
Welcome Message*	You can choose to hide or show the welcome message displayed in the submenu bar. The default is disabled.
Save	Click **Save** to save any changes made to the User Preferences settings.

***** This item is only available with the Browser version.

Sessions

The *Session* page lets the administrator and users with User Management permissions see at a glance which users are currently logged into the RM-KB-LCD17KVMHD, and provides information about each of their sessions.



Note: 1. The Session page isn't available for ordinary users.

2. Users with User Management permissions can only see the sessions of ordinary users
3. The *Category* heading lists the type of user who has logged in: SA (Super Administrator); Admin (Administrator); Normal user (User).

The meanings of the headings at the top of the page are fairly straightforward. The *IP* heading refers to the IP address that the user has logged in from; the *Device* and *Port* headings show which device and port the user is currently accessing. The *Bus ID* refers to the bus that the user is currently on.

Note: 1. The sort order of the information displayed can be changed by clicking the column headings.

2. The Bus ID also displays on the control panel .

This page also gives the administrator the option of forcing a user logout by selecting the user and clicking **End Session** at the bottom of the main panel.

Access

Administrators use the *Access* page to set user access and configuration rights for switches and ports.

Note: The Access page only appears for those users with User Management permissions. It isn't available for other users.

Device Level Browser GUI Interface

If a switch is chosen in the Sidebar, the Main panel looks similar to the one shown below:

The main panel consists of two columns: *Name*, and *Config*:

- *Name* lists all the users that have been created.
- *Config* indicates the users who have Configuration privileges. A check mark (√) indicates that the user has permission to make changes to the switch configuration settings; an X means that the user is denied permission to make configuration changes. Click the icon to toggle permission for Administrators and Users (Super Administrators always have configuration privileges).

- The *Copy* and *Paste* buttons at the bottom of the main panel provide a shortcut method of assigning the permissions settings of one port to any of the other ports. To do so:

  1. Select the port whose permissions you want the other port(s) to follow.
  2. Click **Copy**.
  3. Select the port you want to receive the permissions.
  4. Click **Paste**.

- When you have finished making your configuration changes, click **Save**.

Port Level Browser GUI Interface

If a port is chosen in the Sidebar, the Main panel looks similar to the one shown below:

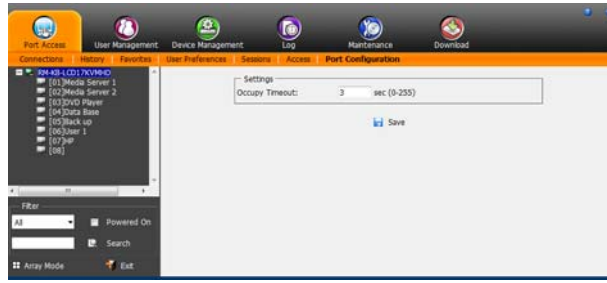
The port access settings are explained in the following table:

1. Name	Each port accessible to the user is listed under the *Names* column.		
2.Access	The Access column is where device access rights are set. To cycle through the choices, click the icon in the row that corresponds to the user you want to configure. The meanings of the icons are as follows		
		Full Access	The user can view the remote screen and can perform operations on the remote server from his keyboard and monitor.
		View Only	The user can only view the remote screen; he cannot perform any operations on it.
		No Access	No access rights - the Port will not show up on the User's list on the Main Screen.
3. Config	Sets or denies permission for the user to make changes to a port's configuration settings. A check mark (√) indicates that the user has permission; an X means that the user does not have permission.		

Port Configuration

Device Level

When a device is selected in the Sidebar, the only item available under Port Configuration is the Port Properties page with one field to configure: the *Occupy Timeout* setting:



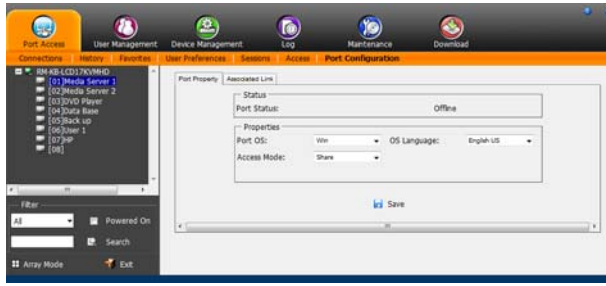
The Occupy Timeout field sets a time threshold for users on ports whose Access Mode has been set to Occupy. If there is no activity from the user occupying the port for the amount of time set here, the user is timed out and the port is released. The first user to send keyboard or mouse input after the port has been released gets to occupy the port.

Input a value from 0 to 255 seconds. The default is 3 seconds. A setting of 0 causes the port to be released the instant there is no input.

Port Level

Port Properties

When a port is selected in the Sidebar, the Port Properties page looks similar to the one below:



- The *Status* panel provides information as to whether or not the port is online or offline.
- The *Properties* panel allows you to make configuration settings for the selected port. An explanation of the Port Properties configuration fields is given on the next page.

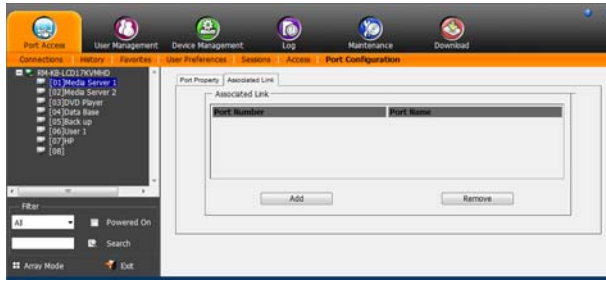
An explanation of the configuration fields is given in the table, below:

Field	Explanation
Port OS	Specifies the operating system that the server on the connected port is using. Choices are Win, Mac, Sun, and Other. The default is Win.
OS Language	Specifies the OS language being used by the server on the connected port. Drop down the list to see the available choices. The default is English US.
Access Mode	Defines how the port is to be accessed when multiple users have logged on, as follows: **Exclusive:** The first user to switch to the port has exclusive control over the port. No other users can view the port. The *Timeout* function does not apply to ports which have this setting. **Occupy:** The first user to switch to the port has control over the port. However, additional users may view the port's video display. If the user who controls the port is inactive for longer than the time set in the *Timeout* box, port control is transferred to the first user to move the mouse or strike the keyboard. **Share:** Users simultaneously share control over the port. Input from the users is placed in a queue and executed chronologically. Under these circumstances, users can take advantage of the *Message Board*, which allows users to communicate with each other regarding control of the keyboard and mouse or keyboard, mouse, and video of a Share port.

When you have finished making your configuration changes, click **Save**.

Associated Links

The Associated Links page provides a method of associating other ports on the same switch to the selected port. This function is primarily intended to be used when connecting both KVM and serial ports from a single server to the switch.



- To associate a port with the currently selected one, click **Add**. In the dialog box that appears, key in the port's number, then click **OK**. The port's number and name appear in the main panel.
- To remove an unwanted associated port, select it in the main panel, then click **Remove**.

Chapter 9
Remote User Management

Overview

When you select the *User Management* tab the screen comes up with the *Users* page displayed:

Browser GUI

The page is organized into two main areas: the Sidebar at the left, and the large main panel at the right.

- Users appear in the panel at the left of the page. The large panel at the right provides more detailed information at-a-glance for each.
  - The Browser GUI has separate menu bar entries for Accounts (Users) . Depending on the menu item selected, either Users are listed in the Sidebar.
  - The AP GUI doesn't have menu entries. Instead, Users are listed separately in the Sidebar
- In the Browser GUI, the sort order of the information displayed can be changed by clicking the main panel column headings.
- The buttons below the main panel are used to manage users , as shown in the sections that follow.

Users

The RM-KB-LCD17KVMHD supports three types of user, as shown in the table, bellow:

User Type	Role
Super Administrator	Access and manage ports and devices. Manage Users, . Configure the overall installation. Configure personal working environment.
Administrator	Access and manage authorized ports and devices. Manage Users . Configure personal working environment.
User	Access authorized ports and devices. Manage authorized ports and devices; configure personal working environment. **Note:** Users who have been given permission to do so, may also manage other users.

Adding Users

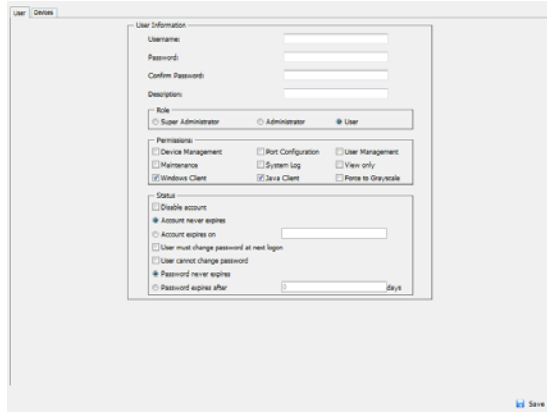
To add a user, and assign user permissions, do the following:

1. Select *Users* on the menu bar (Browser GUI)

   – or –

   Select *Users* in the Sidebar (AP GUI).

2. Click **Add** at the bottom of the main panel. The User notebook opens, with the *User* tab selected:



3. Enter the required information in the appropriate fields. A description of each of the fields is given in the table below:

Field	Description
Username	From 1 to16 characters are allowed depending on the Account Policy settings.
Password	From 0 to16 characters are allowed depending on the Account Policy settings.
Confirm Password	To be sure there is no mistake in the password, you are asked to enter it again. The two entries must match.
Description	Additional information about the user that you may wish to include.
Role	There are three categories: Super Administrator, Administrator and User. There is no limitation on the number of accounts that can be created in each category. ◆ The Super Administrator is responsible for the overall installation configuration and maintenance; user management; and device and port assignments. The Super Administrator's permissions (see page 93) are automatically assigned by the system and cannot be altered. ◆ The default permissions for Administrators include everything except *Force to Grayscale*, but the permissions can be altered for each Administrator by checking or unchecking any of the permissions checkboxes. ◆ The default permissions for Users include the Win, Java, and SSH clients, but the permissions can be altered for each User by checking or unchecking any of the permissions checkboxes. **Note:** Users who have been given User Management privileges cannot access or configure Groups.

Field	Description
Permissions **Note:** For ordinary users, in addition to enabling *Device Management*, *Port Configuration*, and *Maintenance* permissions, the user must also be given those rights for each device and port that he will be allowed to manage. See *Device Assignment*, page 96 for details.	◆ Enabling *Device Management* allows a user to configure and control the settings for overall RM-KB-LCD17KVMHD operations. ◆ Enabling *Port Configuration* allows a user to configure and control the settings for individual ports. ◆ Enabling *User Management* allows a user to create, modify, and delete user and group accounts. ◆ Enabling *Maintenance* allows a user to perform all the Maintenance operations available under the Maintenance tab. ◆ Enabling *System Log* allows a user to access the system log. ◆ Enabling *View Only* limits users to only being able to view the display of connected devices. They cannot control port access, nor can they input any keyboard or mouse signals to the devices they view. ◆ Enabling *Windows Client* allows a user to download the Windows Client AP software, and access the RM-KB-LCD17KVMHD with it, in addition to (or instead of) the browser access method. ◆ Enabling *Java Client* allows a user to download the Java Client AP software, and access the RM-KB-LCD17KVMHD with it, in addition to (or instead of) the browser access method. ◆ Enabling *SSH Client* allows a user to log in and access the RM-KB-LCD17KVMHD via an SSH session. ◆ Enabling *Telnet Client* allows a user to log in and access the RM-KB-LCD17KVMHD via a Telnet session. ◆ *Force to Grayscale* forces the user's view of the remote display to be in grayscale. This can speed up I/O transfer in low bandwidth situations.

Field	Description
Status	Status allows you to control the user's account and access to the installation, as follows: ◆ *Disable Account* lets you suspend a user's account without actually deleting it, so that it can be easily reinstated in the future. ◆ If you don't want to limit the time scope of the account, select *Account never expires*; if you do want to limit the amount of time that the account remains in effect, select *Account expires on*, and key in the expiration date. ◆ To require a user to change his password at the next logon, select *User must change password at next logon*. This can be used by the administrator to give the user a temporary password to log in for the first time, and then let the user set the password of his choice for future logins. ◆ To make a password permanent, so that the user cannot change it to something else, select *User cannot change password*. ◆ For security purposes, administrators may want users to change their passwords from time to time. ◆ If not, select *Password never expires*. This allows users to keep their current passwords for as long as they like. ◆ If so, select *Password expires after*, and key in the number of days allowed before the password expires. Once the time is up, a new password must be set.

4. When your selections have been made click **Save**.
5. When the *Operation Succeeded* message appears, click **OK**.

6. Click **Users** in the Sidebar to return to the main screen. The new user appears in the Sidebar list and in the main panel, as well.
   - The Sidebar *Users* list can expand and collapse. If the list is expanded, click the minus symbol (–) next to the *Users* icon to collapse it; if it is collapsed there is a plus symbol (+) next to the icon. Click the plus symbol to expand it.
   - The icon for super administrators has two black bands; the icon for administrators has one red band.
   - The large main panel shows the user's name; the description that was given when the account was created; and whether the account is currently active or has been disabled.

Modifying User Accounts

To modify a user account, do the following:

1. In the Sidebar *User* list, click the user's name

   – or –

   In the main panel, select the user's name
2. Click **Modify**.
3. In the *User* page that comes up, make your changes, then click **Save**.

Deleting User Accounts

To delete a user account do the following:

1. In the main panel, select the user's name.
2. Click **Delete**.
3. Click **OK**.

Device Assignment

When a user logs in to the RM-KB-LCD17KVMHD, the interface comes up with the Port Access page displayed. All the ports that the user is permitted to access are listed in the Sidebar at the left of the page. Access permissions for those ports and the devices connected to them are assigned on a port-by-port basis from the *User* list on the Sidebar of the User Management page.

Assigning Device Permissions From the User's Notebook

To assign a device permissions to a user from the *User's* notebook, do the following:

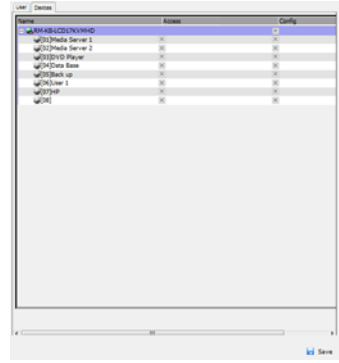
1. In the Sidebar *User* list, click the user's name

   – or –

   In the main panel, select the user's name.

2. Click **Modify**.

3. In the *User* notebook that comes up, select the *Devices* tab. A screen, similar to the one below, appears:



4. Make your permission settings for each port according to the information provided below:

   Name: Each port accessible to the user is listed under the *Names* column.

   Access: The *Access* column is where device access rights are set. Click the icon in the row that corresponds to the port you want to configure to cycle through the choices. The meanings of the icons are described in the table, below:

	Full Access	The user can view the remote screen and can perform operations on the remote server from his keyboard and monitor.
	View Only	The user can only view the remote screen; he cannot perform any operations on it.
	No Access	No access rights - the Port will not show up on the User's list on the Main Screen.

   Config: The *Config* column is where a user's permission to make changes to a port's configuration settings are permitted/ restricted. Click the icon in the row that corresponds to the port you want to configure to cycle through the choices.

   A check mark (√) indicates that the user has permission to make changes to the port's configuration settings; an X means that the user is denied permission to make configuration changes.

5. When you have finished making your choices, click **Save**.

6. In the confirmation popup that appears, click **OK**.

Note: In any of the columns, you can use Shift-Click or Ctrl-Click to select a group of ports to configure. Clicking to cycle through the choices on any one of the selected ports causes all of them to cycle in unison.

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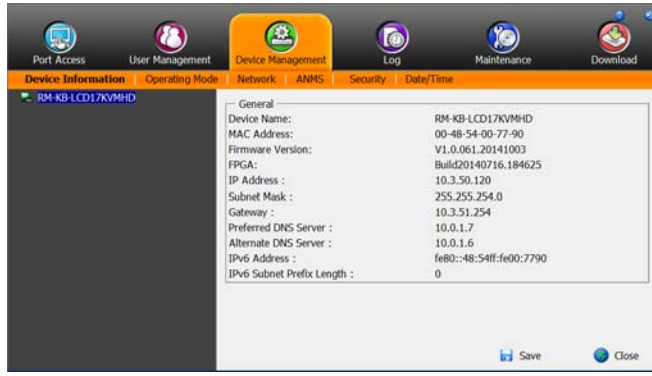
Chapter 10
Remote Device Management

KVM Devices

Device Information

The Device Management page opens with the top level RM-KB-LCD17KVMHD selected in the Sidebar and the *Device Information* item selected on the menu bar:

Browser GUI



General

The *General* section of the Device Information page displays the name of the selected device, its firmware version, the FPGA (Field-Programmable-Gate-Array) and information about its network configuration.

Note: The AP GUI version presents the same information as the Browser version. Scroll through the list to see the additional entries.

Operating Mode

The Operating Mode page is used to set working parameters, as described below:

- If *Force all to grayscale* is enabled, the remote displays of all devices connected to the RM-KB-LCD17KVMHD are changed to grayscale. This can speed up I/O transfer in low bandwidth situations.
- If *Enable Client AP Device List* is enabled, the switch appears in the Server List when using the WinClient or Java Client AP. If this option is not enabled, the switch can still be connected to, but its name will not appear in the Server List.
- If *Enable First Logon Transfer* is enabled, only the first user on a bus can switch ports. Other users on the bus cannot switch ports unless there is a bus that is already connected to the port they would like to access, or there is a free bus available.

- For the *Keyboard/Mouse Broadcast* setting, drop down the list to make your choice.
  - If you enable Keyboard Broadcast, your keystrokes will be duplicated on all the attached servers that currently appear in the Sidebar.
  - If you enable Mouse Broadcast, your mouse movements and clicks will be duplicated on all the attached servers that currently appear in the Sidebar.

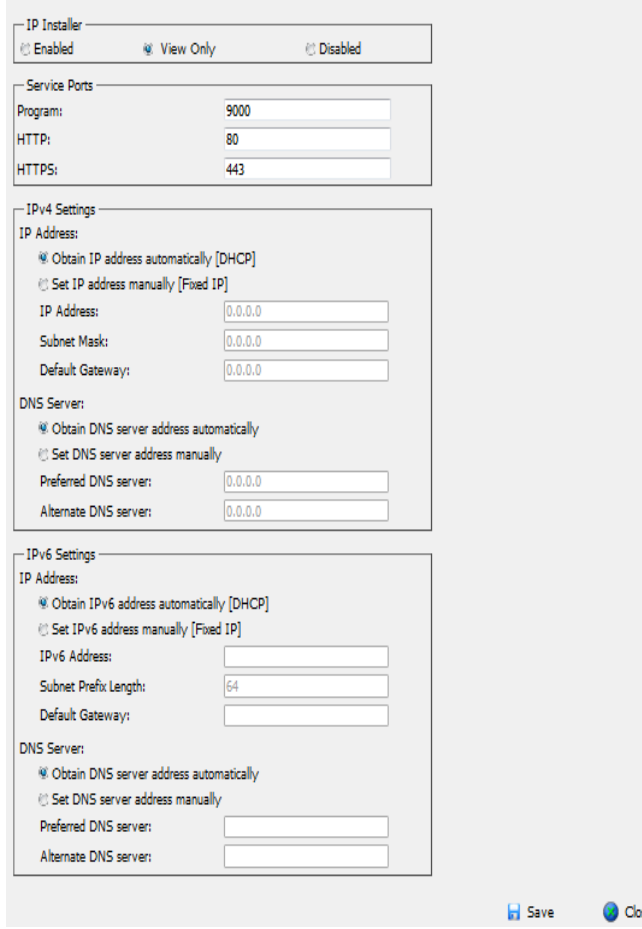
  Note: 1. On a KVM switch that is cascaded from the RM-KB-LCD17KVMHD, only one port can perform a Keyboard/Mouse broadcast at a time.

  2. For Mouse Broadcast, you and all the servers must be running the same OS; all the monitors must have the same resolution; and all the screens must have an identical layout.

- The *Console Keyboard Language* setting lets you specify which keyboard mapping is being used by the Local Console keyboard. Drop down the list to make your choice.

Network

The Network page is used to specify the network environment.



Each of the elements on this page is described in the sections that follow.

IP Installer

The IP Installer is an external Windows-based utility for assigning IP addresses to the RM-KB-LCD17KVMHD.

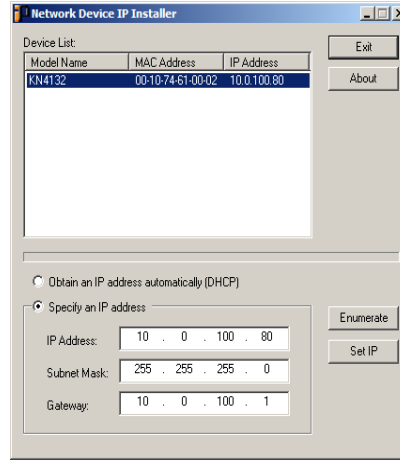
Click one of the radio buttons to select *Enable*, *View Only*, or *Disable* for the IP Installer utility. Add IP installer KN P249~250.

Note: 1. If you select *View Only*, you will be able to see the RM-KB-LCD17KVMHD in the IP Installer's Device List, but you will not be able to change the IP address.

2. For security, we strongly recommend that you set this to *View Only* or *Disable* after each use.

For client computers running Windows, an IP address can be assigned with the *IP Installer* utility. The utility can be obtained from the *Download* area of our website. Look under *Driver/SW*, and the model of your switch. After downloading the utility to your client computer, do the following:

1. Unzip the contents of *IPInstaller.zip* to a directory on your hard drive.
2. Go to the directory that you unzipped the IPInstaller program to and run *IPInstaller.exe*. A dialog box similar to the one below appears:



3. Select the RM-KB-LCD17KVMHD in the *Device List*.

Note: 1. If the list is empty, or your device doesn't appear, click **Enumerate** to refresh the Device List.

2. If there is more than one device in the list, use the MAC address to pick the one you want. The RM-KB-LCD17KVMHD MAC address is located on its bottom panel.

4. Select either *Obtain an IP address automatically (DHCP)*, or *Specify an IP address*. If you chose the latter, fill the IP Address, Subnet Mask, and Gateway fields with the information appropriate to your network.
5. Click **Set IP**.
6. After the IP address shows up in the Device List, click **Exit**.

Service Ports

As a security measure, if a firewall is being used, the Administrator can specify the port numbers that the firewall will allow. If a port other than the default is used, users must specify the port number as part of the IP address when they log in. If an invalid port number (or no port number) is specified, the RM-KB-LCD17KVMHD will not be found. An explanation of the fields is given in the table below:

Field	Explanation
Program	This is the port number for connecting with the WinClient ActiveX Viewer, WinClient AP, Java Applet Viewer, Java Client AP, or via Virtual Media. The default is 9000.
HTTP	The port number for a browser login. The default is 80.
HTTPS	The port number for a secure browser login. The default is 443.

Note: 1. Valid entries for all of the Service Ports are from 1–65535.

2. Service ports cannot have the same value. You must set a different value for each one.
3. If there is no firewall (on an Intranet, for example), it doesn't matter what these numbers are set to, since they have no effect.

- IPv4 Settings
  - IP Address:

    IPv4 is the traditional method of specifying IP addresses. The RM-KB-LCD17KVMHD can either have its IP address assigned dynamically (DHCP), or it can be given a fixed IP address.

    - For dynamic IP address assignment, select the *Obtain IP address automatically* radio button. (This is the default setting.)
    - To specify a fixed IP address, select the *Set IP address manually* radio button and fill in the fields with values appropriate for your network.

    Note: 1. If you choose *Obtain IP address automatically*, when the switch starts up it waits to get its IP address from the DHCP server. If it hasn't obtained the address after one minute, it automatically reverts to its factory default IP address (192.168.0.60.)

    2. If the switch is on a network that uses DHCP to assign network addresses, and you need to ascertain its IP address.

  - DNS Server
    - For automatic DNS Server address assignment, select the *Obtain DNS Server address automatically* radio button.
    - To specify the DNS Server address manually, select the *Set DNS server address manually* radio button, and fill in the addresses for the Preferred and Alternate DNS servers with values appropriate for your network.

    Note: Specifying the Alternate DNS Server address is optional.

- IPv6 Settings
  - IP Address:

    IPv6 is the new (128-bit) format for specifying IP addresses. The RM-KB-LCD17KVMHD can either have its IPv6 address assigned dynamically (DHCP), or it can be given a fixed IP address.

    - For dynamic IP address assignment, select the *Obtain IP address automatically* radio button. (This is the default setting.)
    - To specify a fixed IP address, select the *Set IP address manually* radio button and fill in the fields with values appropriate for your network.
  - DNS Server
    - For automatic DNS Server address assignment, select the *Obtain DNS Server address automatically* radio button.
    - To specify the DNS Server address manually, select the *Set DNS server address manually* radio button, and fill in the addresses for the Preferred and Alternate DNS servers with values appropriate for your network.

Note: Specifying the Alternate DNS Server address is optional.

Network Transfer Rate

This setting allows you to tailor the size of the data transfer stream to match network traffic conditions by setting the rate at which the RM-KB-LCD17KVMHD transfers data between itself and the client computers. The range is from 4–99999 Kilobytes per second (KBps).

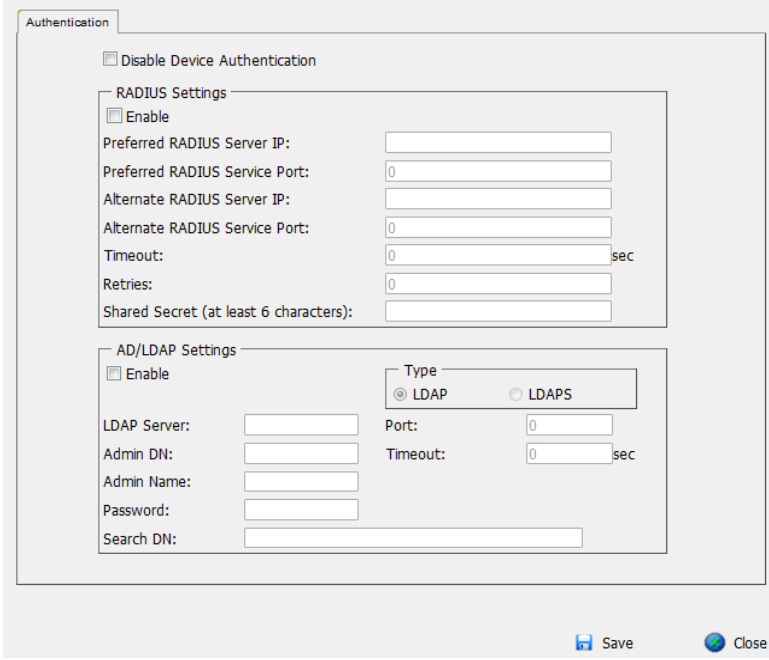
Finishing Up

After making any network changes, be sure *Reset on exit* on the *Device Management* → *System Operation* page has been enabled (there is a check in the checkbox), before logging out. This allows network changes to take effect without having to power the switch off and on.

ANMS

The ANMS (Advanced Network Management Settings) page is used to set up login authentication and authorization management from external sources.Event Destination

Authentication



- Disable Local Authentication

  Selecting this option disables login authentication on the RM-KB-LCD17KVMHD. The switch can only be accessed using LDAP, LDAPS, MS Active Directory, RADIUS or CC Management authentication.

- RADIUS Settings

  To allow authentication and authorization for the RM-KB-LCD17KVMHD through a RADIUS server, do the following:

  1. Check **Enable**.
  2. Fill in the IP addresses and service port numbers for the Preferred and Alternate RADIUS servers. You can use the IPv4 address, the IPv6 address or the domain name in the IP fields.
  3. In the *Timeout* field, set the time in seconds that the RM-KB-LCD17KVMHD waits for a RADIUS server reply before it times out.
  4. In the *Retries* field, set the number of allowed RADIUS retries.
  5. In the *Shared Secret* field, key in the character string that you want to use for authentication between the RM-KB-LCD17KVMHD and the RADIUS Server. A minimum of 6 characters is required.

6. On the RADIUS server, Users can be authenticated with any of the following methods:
   - Set the entry for the user as **su/xxxx**

     Where *xxxx* represents the Username given to the user when the account was created on the RM-KB-LCD17KVMHD.
   - Use the same Username on both the RADIUS server and the RM-KB-LCD17KVMHD.
   - Use the same Group name on both the RADIUS server and the RM-KB-LCD17KVMHD.
   - Use the same Username on both the RADIUS server and the RM-KB-LCD17KVMHD.

   In each case, the user's access rights are the ones assigned that were assigned when the User was created on the RM-KB-LCD17KVMHD.

- LDAP / LDAPS Authentication and Authorization Settings

  To allow authentication and authorization for the RM-KB-LCD17KVMHD via LDAP / LDAPS, refer to the information in the table, below:

Item	Action
Enable	Put a check in the *Enable* checkbox to allow LDAP / LDAPS authentication and authorization.
Type	Click a radio button to specify whether to use LDAP or LDAPS.
LDAP Server IP and Port	Fill in the IP address and port number for the LDAP or LDAPS server. ◆ You can use the IPv4 address, the IPv6 address or the domain name in the *LDAP Server* field. ◆ For LDAP, the default port number is 389; for LDAPS, the default port number is 636.
Admin DN	Consult the LDAP / LDAPS administrator to ascertain the appropriate entry for this field. For example, the entry might look like this: ou=kn4132,dc=aten,dc=com
Admin Name	Key in the LDAP administrator's username.
Password	Key in the LDAP administrator's password.
Search DN	Set the distinguished name of the search base. This is the domain name where the search starts for user names.
Timeout	Set the time in seconds that the RM-KB-LCD17KVMHD waits for an LDAP or LDAPS server reply before it times out.

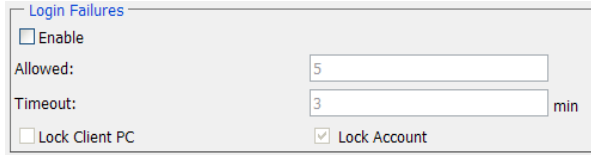
On the LDAP / LDAPS server, Users can be authenticated with any of the following methods:

- With MS Active Directory schema.
- Without schema – Only the Usernames used on the RM-KB-LCD17KVMHD are matched to the names on the LDAP / LDAPS server. User privileges are the same as the ones configured on the switch.

Security

Login Failures

For increased security, the Login Failures section allows administrators to set policies governing what happens when a user fails to log in successfully.

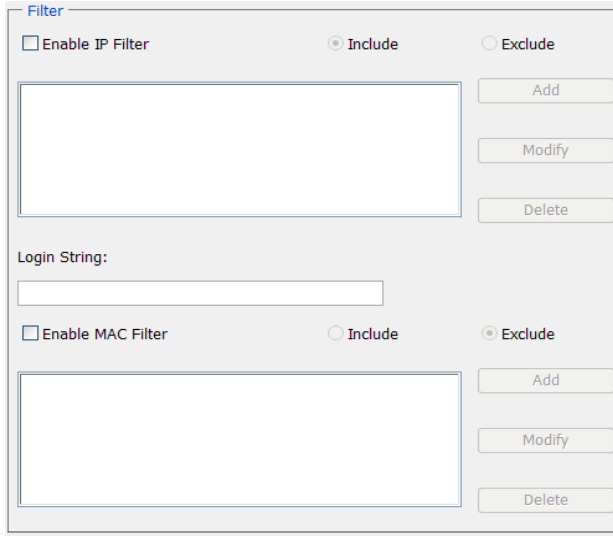


To set the Login Failures policy, check the *Enable* checkbox (the default is for Login Failures to be enabled). The meanings of the entries are explained in the table below:

Entry	Explanation
Allowed	Sets the number of consecutive failed login attempts that are permitted from a remote computer. The default is 5 times.
Timeout	Sets the amount of time a remote computer must wait before attempting to login again after it has exceeded the number of allowed failures. The default is 3 minutes.
Lock Client PC	If this is enabled, after the allowed number of failures have been exceeded, the computer attempting to log in is automatically locked out. No logins from that computer will be accepted. The default is enabled. **Note:** This function relates to the client computer's IP. If the IP is changed, the computer will no longer be locked out.
Lock Account	If this is enabled, after the allowed number of failures have been exceeded, the user attempting to log in is automatically locked out. No logins from the username and password that have failed will be accepted. The default is enabled.

Note: If Login Failures is not enabled, users can attempt to log in an unlimited number of times with no restrictions. For security purposes, we recommend that you enable this function and enable the lockout policies.

Filter



- IP and MAC Filtering

  IP and MAC Filters control access to the RM-KB-LCD17KVMHD based on the IP and/or MAC addresses of the client computers attempting to connect. A maximum of 100 IP filters and 100 MAC filters are allowed. If any filters have been configured, they appear in the IP Filter and/or MAC Filter list boxes.

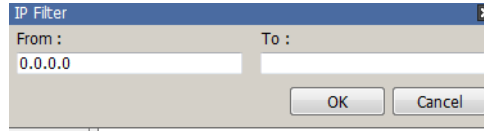
  To enable IP and/or MAC filtering, **Click** to put a check mark in the *IP Filter Enable* and/or *MAC Filter Enable* checkbox.

  - If the include button is checked, all the addresses within the filter range are allowed access; all other addresses are denied access.
  - If the exclude button is checked, all the addresses within the filter range are denied access; all other addresses are allowed access.

- Adding Filters

  To add an IP filter, do the following:

  1. Click **Add**. A dialog box similar to the one below appears:



  2. Key the address you want to filter in the *From:* field.
     - To filter a single IP address, click to put a check in the *Single IP* checkbox.
     - To filter a continuous range of addresses, key in the end number of the range in the *To:* field.

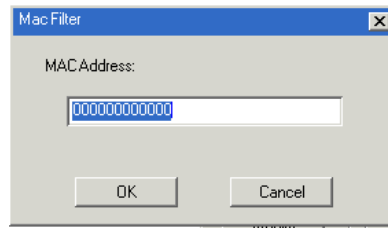
Note: 1. It only offers IPv6 choice from AP GUI.

2. It doesn't have a checkbox to specify a single IP address. To filter a single IPv4 address, key the same address in both the *From* and *To* fields.

  3. After filling in the address, click **OK**.
  4. Repeat these steps for any additional IP addresses you want to filter.

To add a MAC filter, do the following:

1. Click **Add**. A dialog box similar to the one below appears:



2. Specify the MAC address in the dialog box, then click **OK**.
3. Repeat these steps for any additional MAC addresses you want to filter.

- IP Filter / MAC Filter Conflict

  If there is a conflict between an IP filter and a MAC filter – in other words, if a computer's address is allowed by one filter but blocked by the other – then the blocking filter takes precedence (the computer's access is blocked).

- Modifying Filters

  To modify a filter, select it in the IP Filter or MAC Filter list boxes and click **Modify**. The Modify dialog box is similar to the Add dialog box. When it comes up, simply delete the old address(es) and replace it with the new one(s).

- Deleting Filters

  To delete a filter, select it in the IP Filter or MAC Filter list box and click **Delete**.

Login String

The *Login String* entry field lets the super administrator specify a login string (in addition to the IP address) that users must add to the IP address when they access the RM-KB-LCD17KVMHD with a browser.

For example, if *192.168.0.126* were the IP address, and *abcdefg* were the login string, then the user would have to key in:

```
192.168.0.126/abcdefg
```

Note: 1. Users must place a forward slash between the IP address and the string.

2. If no login string is specified here, anyone will be able to access the RM-KB-LCD17KVMHD login page using the IP address alone. This makes your installation less secure.

The following characters are allowed in the string:

0–9 a–z A–Z ~ ! @ $ & * ( ) _ - = + [ ] , . |

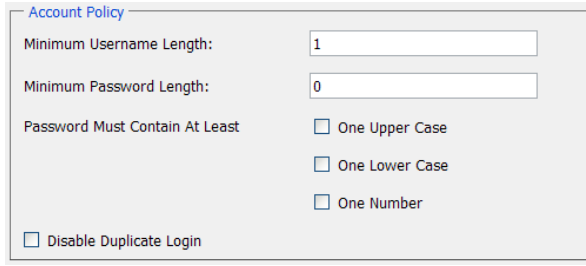
The following characters are not allowed:

% ^ ” : / ? # \ ‘ { } ; ’ < > [Space]
Compound characters (É Ç ñ ... etc.)

For security purposes, we recommend that you change this string occasionally.

Account Policy

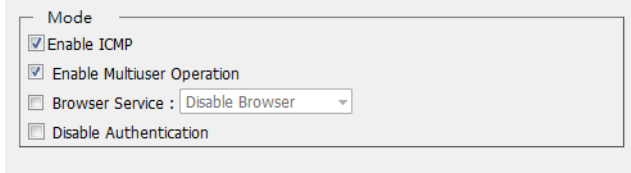
In the Account Policy section, system administrators can set policies governing usernames and passwords.



The meanings of the Account Policy entries are explained in the table below:

Entry	Explanation
Minimum Username Length	Sets the minimum number of characters required for a username. Acceptable values are from 1–16. The default is 6.
Minimum Password Length	Sets the minimum number of characters required for a password. Acceptable values are from 0–16. A setting of 0 means that no password is required. Users can login with only a Username. The default is 6.
Password Must Contain At Least	Checking any of these items requires users to include at least one uppercase letter, one lowercase letter or one number in their password. **Note:** This policy only affects user accounts created after this policy has been enabled, and password changes to existing user accounts. Users accounts created before this policy was enabled, and there is no change to the existing passwords, are not affected.
Disable Duplicate Login	Check this to prevent users from logging in with the same account at the same time.

Mode

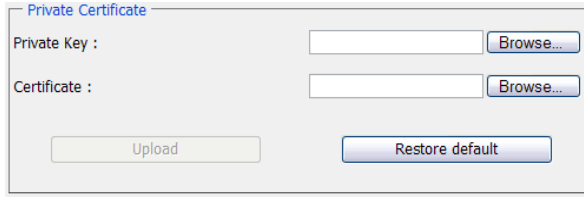


An explanation of the Mode items is given in the table, below:

Item	Explanation
Enable ICMP	If *ICMP* is **enabled**, the RM-KB-LCD17KVMHD can be pinged. If it is not enabled, the device cannot be pinged. The default is Enabled.
Enable Multiuser Operation	Enabling *Multiuser operation* permits up to 32 users to log in at the same time to share the remote bus. If not enabled, only one user can log in at a time. The default is Enabled.
Browser Service	Enabling Browser Service allows the administrator to restrict browser access to the RM-KB-LCD17KVMHD. After checking *Browser Service*, drop down the listbox to select the degree of restriction: **Disable Browser:** means no browser access is permitted. **Disable HTTP:** means browser access is permitted, but users must access the switch with an HTTPS URL. **Disable HTTPS:** means browser access is permitted, but users must access the switch with an HTTP URL.
Disable Authentication	If *Disable Authentication* is checked, no authentication procedures are used to check users attempting to log in. Users gain Administrator access to the RM-KB-LCD17KVMHD simply by entering combination of username and password. **Note:** Enabling this setting creates an extremely dangerous result as far as security goes, and should only be used under very special circumstances.

Private Certificate

When logging in over a secure (SSL) connection, a signed certificate is used to verify that the user is logging in to the intended site. For enhanced security, the *Private Certificate* section allows you to use your own private encryption key and signed certificate, rather than the default certificate.



There are two methods for establishing your private certificate: generating a self-signed certificate; and importing a third-party certificate authority (CA) signed certificate.

- Obtaining a CA Signed SSL Server Certificate

  For the greatest security, we recommend using a third party certificate authority (CA) signed certificate. To obtain a third party signed certificate, go to a CA (Certificate Authority) website to apply for an SSL certificate. After the CA sends you the certificate and private encryption key, save them to a convenient location on your computer.

- Importing the Private Certificate

  To import the private certificate, do the following:

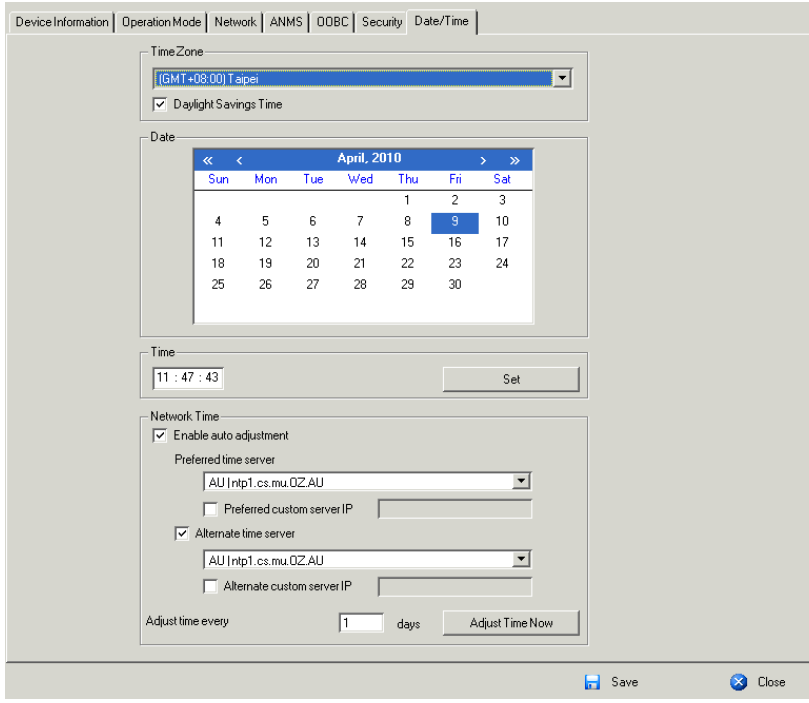
  1. Click **Browse** to the right of *Private Key*; browse to where your private encryption key file is located; and select it.
  2. Click **Browse** to the right of *Certificate*; browse to where your certificate file is located; and select it.
  3. Click **Upload** to complete the procedure.

Note: 1. Clicking **Restore Default** returns the device to using the default certificate.

2. Both the private encryption key and the signed certificate must be imported at the same time.

Date/Time

The Date/Time dialog page sets the RM-KB-LCD17KVMHD time parameters:



Set the parameters according to the information below.

Time Zone

- To establish the time zone that the RM-KB-LCD17KVMHD is located in, drop down the *Time Zone* list and choose the city that most closely corresponds to where it is at.
- If your country or region employs Daylight Saving Time (Summer Time), check the corresponding checkbox.

Date

- Select the month from the dropdown listbox.
- Click < or > to move backward or forward by one year increments.
- In the calendar, click on the day.
- To set the time, use the 24 hour HH:MM:SS format.
- Click **Set** to save your settings.

Network Time

To have the time automatically synchronized to a network time server, do the following:

1. Check the *Enable auto adjustment* checkbox.
2. Drop down the time server list to select your preferred time server

   – or –

   Check the *Preferred custom server IP* checkbox, and key in either the IPv4 address, IPv6 address, or domain name of the time server of your choice.
3. If you want to configure an alternate time server, check the *Alternate time server* checkbox, and repeat step 2 for the alternate time server entries.
4. Key in your choice for the number of days between synchronization procedures.
5. If you want to synchronize immediately, click **Adjust Time Now**.

Chapter 11
Remote Log

Overview

The RM-KB-LCD17KVMHD logs all the events that take place on it. To view the contents of the log, click the *Log* tab. The device's Log Information page, similar to the one below, appears:

Browser GUI

Log Information

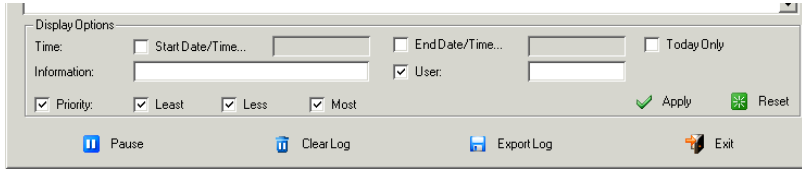
The Log Information page displays events that take place on the RM-KB-LCD17KVMHD, and provides a breakdown of the time, the severity, the user, and a description of each one. You can change the sort order of the display by clicking on the column headings.

The log file tracks a maximum of 512 events. When the limit is reached, the oldest events get discarded as new events come in. The purpose of the buttons at the bottom of the page are described in the following table:

Button	Explanation
Pause	Clicking *Pause* stops the display of new events. When the display is paused the button changes to *Resume*. Click **Resume** to start displaying events again.
Clear Log	Clicking *Clear Log* clears the log file.
Export Log	Clicking *Export Log* lets you save the contents of the log to a file on your computer.
Filter	Clicking *Filter* allows you to search for particular events by date or by specific words or strings, as described in the next section.

Filter

Filter lets you narrow the log event display to ones that occurred at specific times; ones containing specific words or strings; or ones involving specific users. When you access this function, the log filter dialog box appears at the bottom of the page:



A description of the filter items is given in the table, below:

Item	Description
Time	This feature lets you filter for events that occurred at specific times, as follows: **Today Only:** Only the events for the current day are displayed. **Start Date/Time:** Filters for events from a specific date and time to the present. Put a check in the checkbox to bring up a calendar. Set the date and time that you want the filtering to start from. All events from the Start date/time to the present are displayed. For the Web Browser interface, after checking Start Date/Time, you have to click inside the text box in order to bring up the calendar. When you have made your calendar choices, click the **A** icon at the lower right of the calendar panel. **End Date/Time:** Filters for events from a specific date and time to a specific date and time. First select the Start Date/Time (described above); check **End Date/Time** to set the ending date and time. For the Web Browser interface, after checking End Date/Time, you have to click inside the text box in order to bring up the calendar. When you have made your calendar choices, click the **A** icon at the lower right of the calendar panel.
Information	Filters for a particular word or string. Key the word or string into the *Information* text box. Only events containing that word or string are displayed. Wildcards (? for single characters; * for multiple characters) and the keyword **or** are supported. E.g., h*ds would return hands and hoods; h?nd would return hand and hind, but not hard; h*ds or h*ks would return hands and hooks.
User	Filters for specific users. First put a check in the *User* checkbox; then key in the user's Username; then click **Apply**. Only events containing that Username are displayed. **Note:** If the *User* checkbox is not checked here in the Filter panel, the entire User column does not appear in the main panel.
Severity	Filters based on the severity rating of the event. Least events appear in black; Less events appear in blue; Most events appear in red. First put a check in the *Severity* checkbox; then check the severity options you want to filter for (you can check more than one item). Only events that match the severity ratings you specified appear in the display. **Note:** If the *Severity* checkbox is not checked here in the Filter panel, the entire Severity column does not appear in the main panel.
Apply	Click to apply the filter choices.
Reset	Click this button to clear the entries in the dialog box and start with a clean slate.
Exit	Click this button to exit the log filter function.

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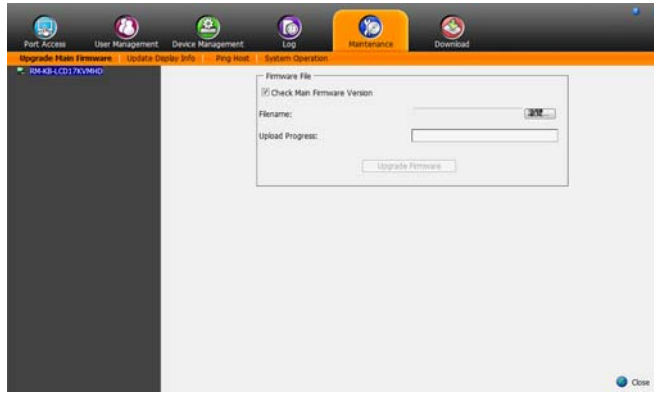
Chapter 12
Remote Maintenance

Overview

The *Maintenance* function is used to upgrade firmware; backup and restore configuration and account information; ping network devices; and restore default values.

Browser GUI

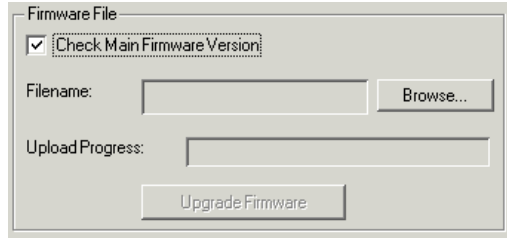


Main Firmware Upgrade

In addition to upgrading the RM-KB-LCD17KVMHD main firmware. As new versions of the firmware become available, they can be downloaded from our website. Check the website regularly to find the latest information and packages.

To upgrade the main firmware, do the following:

1. Download the new firmware file, to your computer.
2. Log in to the RM-KB-LCD17KVMHD; and click the *Maintenance* tab. The Maintenance tab opens to the *Upgrade Main Firmware* page:



3. Click **Browse**; navigate to the directory that the new firmware file is in and select the file.
4. Click **Upgrade Firmware** to start the upgrade procedure.
   - If you enabled *Check Main Firmware Version* the current firmware level is compared with that of the upgrade file. If the current version is equal to or higher than the upgrade version, a popup message appears, to inform you of the situation and stops the upgrade procedure.
   - If you didn't enable *Check Main Firmware Version*, the upgrade file is installed without checking what its level is.
   - As the upgrade proceeds, progress information is shown in the *Progress* bar.
   - Once the upgrade completes successfully, the switch resets itself.
5. Log in again, and check the firmware version to be sure it is the new one.

Note: To recover from a “failed upgrade” situation, see next page.

Firmware Upgrade Recovery

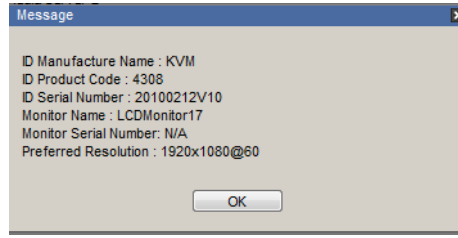
Should the switch's main firmware upgrade procedure fail, and the switch becomes unusable, the following firmware upgrade recovery procedure will resolve the problem:

1. Power off the switch.
2. Press and hold the Reset Switch in.
3. While holding the Reset Switch in, power the switch back on.

This causes the switch to use the original factory installed main firmware version. Once the switch is operational, you can try upgrading the main firmware again.

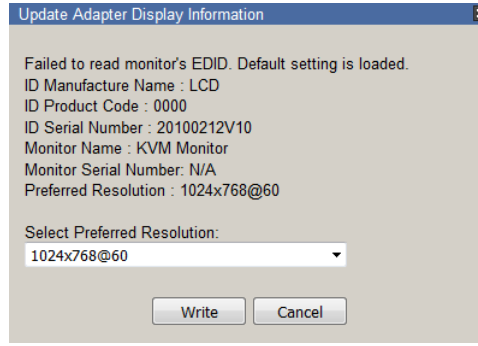
Display Information

The *Display Information* button will query and show the locally connected monitor's EDID information, as shown here:



Update Display Info

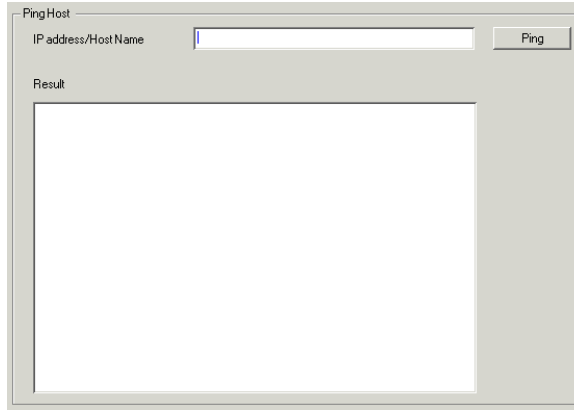
The *Update Display Info* button will query the local monitor's EDID information and update it. The EDID information tells the server's video card about the hardware of the display it is connected to; in this case the monitor connected to the KVM console.



Use the *Display Information* button to obtain the local monitor's Preferred Resolution (optional), and apply it with the *Select Preferred Resolution* drop down menu, then click **Write**.

Ping

The Ping menu item lets you check the network status of devices on the RM-KB-LCD17KVMHD installation:



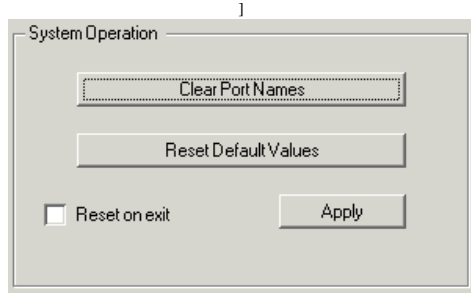
To ping a device, do the following:

1. Key the device's IP Address or Host Name into the text entry box.
2. Click **OK**.

The ping results display in the *Result* panel.

System Operation

The Restore Values page lets you restore certain configuration changes that were made to the RM-KB-LCD17KVMHD back to their original factory default values.



The functions performed on this page are as follows:

Clear Port Names:

Clicking this button removes names that have been assigned to the ports

Restore Default Values:

Clicking this button undoes all Customization page changes that have been made to the RM-KB-LCD17KVMHD (except for the Port Names), as well as the Network Transfer Rate, and returns the parameters to the original factory default settings.

Reset on exit:

Place a check here and click **Apply** to have the RM-KB-LCD17KVMHD reset itself and implement all the new settings when you log out. (Following the reset, wait approximately 30 to 60 seconds before logging back in.)

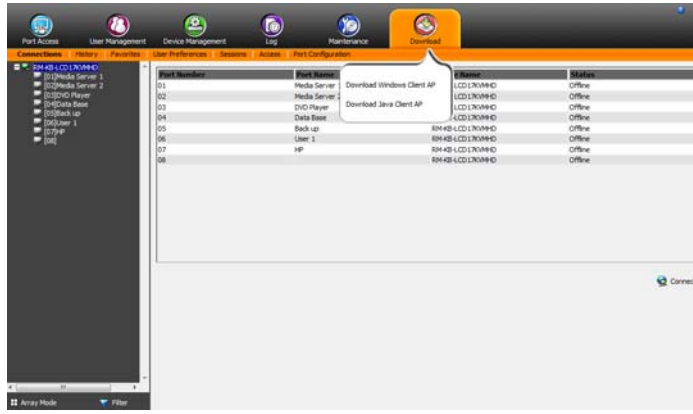
If you change the switch's IP Address, the checkbox is automatically checked and the KVM switch will reset when you log out. If you clear the check mark before logging out, the changed IP settings will be ignored and the original IP address settings will remain in effect.

Note: Even though the changed IP settings are ignored, they still remain in the network settings fields. Which means that the next time you open this page the *Reset on exit* checkbox will automatically be enabled, and when the switch resets, the new IP settings that you thought you discarded will become the ones used by the switch. To avoid this problem, you should go back to the network settings page and be sure that the IP settings that appear in the fields are the ones you want to use.

Chapter 13
Download

Overview

Download is used to download stand-alone AP versions of the Windows Client, the Java Client:



Click the program you want to download; save it to a convenient location on your hard disk, and run it from there.

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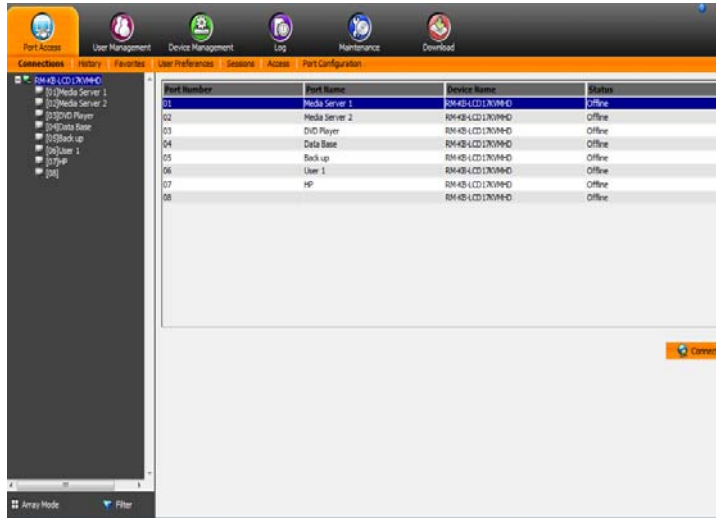
Chapter 14
Port Operation

Overview

After you have successfully logged in, the RM-KB-LCD17KVMHD opens to the Port Access tab's Connections page:



Note: The WinClient and Java Client AP programs have a hidden Control Panel at the upper center of the screen that becomes visible when you mouse over it. The Browser version's Control Panel only appears after you switch to a port.

Connecting to a Port

All the devices, ports, and outlets that a user is permitted to access are listed in the Sidebar at the left of the page.

- To connect to a port when a device is selected in the Sidebar, double click its icon in the Sidebar; or double click anywhere on its line entry in the main central panel; or select it in the main panel and click **Connect** at the bottom right of the page.
- To connect to a port when the port is selected in the Sidebar, click **Connect** at the right of the *Status* panel.

Once you switch to a port, its screen displays on your monitor, and your keyboard and mouse input affects the remote server:

The Port Toolbar

The RM-KB-LCD17KVMHD interface provides a toolbar to help you with port switching operations from within the captured port. To bring up the toolbar, tap the GUI Hotkey (Default), twice. The toolbar appears at the upper left corner of the screen:

Depending on the settings that were selected for ID Display, the Port Number and/or the Port Name display at the right of the toolbar.

When the toolbar displays mouse and keyboard input has no effect on the server connected to the port. To carry out operations on the server, close the toolbar by clicking its **X** icon.

To return to the Port Access *Connections* page, either click the appropriate icon, or tap the GUI hotkey again.

Note: 1. You can adjust the toolbar transparency.

2. The toolbar functions and icons are also incorporated in the Control Panel. If you choose to enable them in the Control Panel, you can disable the Toolbar. To recall the Port Access *Connections* page when there is no Toolbar, simply tap the GUI hotkey twice.

The Toolbar Icons

The meanings of the toolbar icons are explained in the table below.

Icon	Purpose
	Click to skip to the first accessible port on the entire installation, without having to recall the Port Access page.
	Click to skip to the first accessible port previous to the current one, without having to recall the Port Access page.
	Click to begin Auto Scan Mode. The RM-KB-LCD17KVMHD automatically switches among the ports that were selected for Auto Scanning with the *Filter* function. This allows you to monitor their activity without having to switch among them manually.
	Click to skip from the current port to the next accessible one, without having to recall the Port Access page.
	Click to skip from the current port to the last accessible port on the entire installation, without having to recall the Port Access page.
	Click to recall the Port Access page.
	Click to close the toolbar.
	Click to invoke Panel Array Mode (see *Panel Array Mode*, page 139).

Auto Scanning

The Scan function automatically switches among all the ports that are accessible to the currently logged on user at regular intervals, so that the user can monitor their activity automatically. Users can also limit the number of ports scanned with the Filter function of the Sidebar.

- Setting the Scan Interval:

  The amount of time Auto Scan dwells on each port is set with the *Scan Duration* setting.

- Invoking Auto Scan

  To start Auto Scanning, with the toolbar showing, tap the **A** key. The Auto Scan function cycles through the ports in order – starting from the first port on the installation. An [S] appears in front of the Port ID Display to indicate that the port is being accessed under Auto Scan Mode.

- Pausing Auto Scan

  While you are in Auto Scan Mode, you can pause the scanning in order to keep the focus on a particular server by pressing **P**. During the time that Auto Scanning is paused, the **S** in front of the Port ID blinks On and Off.

  Pausing when you want to keep the focus on a particular server can be more convenient than exiting Auto Scan Mode because when you *Resume* scanning, you start from where you left off. If, on the other hand, you were to exit and then restart Auto Scan Mode, the scanning would start over from the very first server on the installation.

  To *Resume* Auto Scanning after a pause, press any key except [Esc] or the [Spacebar]. Scanning continues from where it left off.

- Exiting Auto Scan

  While Auto Scan Mode is in effect, ordinary keyboard functions are suspended. You must exit Auto Scan Mode in order to regain normal control of the keyboard. To exit Auto Scan Mode press [Esc] or the [Spacebar]. Auto Scanning stops when you exit Auto Scan Mode.

Skip Mode

Skip Mode allows you to switch ports in order to monitor the servers manually. You can dwell on a particular port for as long or as little as you like - as opposed to Auto Scanning, which automatically switches after a fixed interval. The Skip Mode hotkeys are the four Arrow keys. Their operation is explained in the table below:

Arrow	Action
←	Skips from the current port to the first accessible port previous to it.
→	Skips from the current port to the first accessible port that comes after it.
↑	Skips from the current port to the very first accessible port on the installation.
↓	Skips from the current port to the very last accessible port on the installation.

Recalling the Port Access Page

To dismiss the toolbar and bring back the Port Access page, do one of the following:

- Tap the GUI Hotkey once.
- From the toolbar, click the icon that recalls the Port Access page.

The toolbar closes, and the Port Access Page appears.

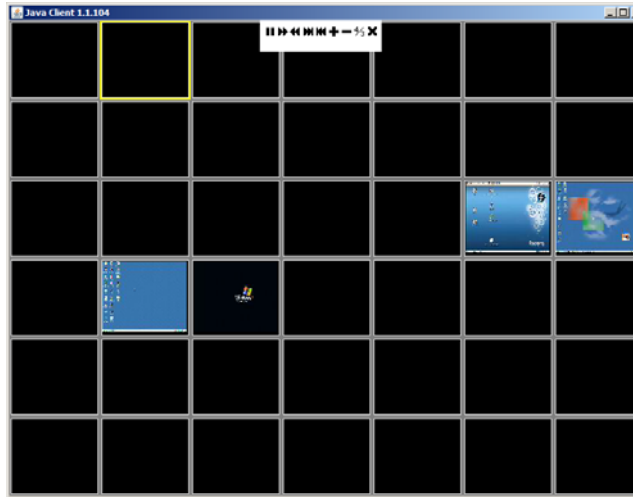
GUI Hotkey Summary Table

The following table presents a summary of the GUI Hotkey actions after you have accessed a port.

To...		Do This...
Open the Toolbar		Click the GUI Hotkey twice
Open the Port Access Page	The Toolbar is open	Click the GUI Hotkey once
	The Toolbar is not open	Click the GUI Hotkey three times

Panel Array Mode

Clicking the toolbar's *Panel* icon invokes Panel Array Mode. Under this mode, the screen divides into a grid of up to 42 panels:



- Each panel represents one of the switch's ports beginning with Port 1 at the upper left, and going from left to right; top to bottom.
- The number of panels in the array can be selected by clicking the **Show More Ports**, and **Show Fewer Ports** symbols on the panel array toolbar (see the following page for an explanation of the panel array toolbar).
- When the Array is first invoked, it scans through each of the ports that were selected for Auto Scanning with the *Filter* function. As it scans, the border of the panel that has the focus becomes highlighted.
- Only ports that are accessible to the user are displayed. For ports that are not accessible, the panel is blank.
- If the server connected to a port is on line, its screen displays in its panel, otherwise the panel is blank.
- Mousing over a panel displays information about the port (port name, online status, port access status, and resolution).
- You can access a server connected to a port by moving the mouse pointer over its panel and clicking. You switch to the server exactly as if you had selected it from the Port Access page.

Panel Array Toolbar

The panel array toolbar provides shortcut navigation and control of the panel array. The toolbar can be dragged anywhere on the screen. Mousing over an icon brings up a “tooltip” that provides a short description of the icon’s function. The icon functions are described in the table below:

	Click and drag to move the toolbar. **Note:** This icon is only available with the Windows Clients. To move the Java Client toolbars, click on any empty space and drag.
	Pause panel scanning, leaving the focus on the panel that currently has it.
	Move back four panels.
	Move to the previous panel.
	Move to the next panel.
	Move ahead four panels.
	Show More Ports: Increase the number of panels in the array.
	Show Fewer Ports: Decrease the number of panels in the array.
	Toggle 4/3 aspect ratio.
	Exit Panel Array mode.

Appendix

Safety Instructions

General

- Read all of these instructions. Save them for future reference.
- Follow all warnings and instructions marked on the device.
- Do not place the device on any unstable surface (cart, stand, table, etc.). If the device falls, serious damage will result.
- Do not use the device near water.
- Do not place the device near, or over, radiators or heat registers.
- The device cabinet is provided with slots and openings to allow for adequate ventilation. To ensure reliable operation, and to protect against overheating, these openings must never be blocked or covered.
- The device should never be placed on a soft surface (bed, sofa, rug, etc.) as this will block its ventilation openings. Likewise, the device should not be placed in a built in enclosure unless adequate ventilation has been provided.
- Never spill liquid of any kind on the device.
- Unplug the device from the wall outlet before cleaning. Do not use liquid or aerosol cleaners. Use a damp cloth for cleaning.
- The device should be operated from the type of power source indicated on the marking label. If you are not sure of the type of power available, consult your dealer or local power company.
- The device is designed for IT power distribution systems with 230V phase-to-phase voltage.
- To prevent damage to your installation it is important that all devices are properly grounded.
- The device is equipped with a 3-wire grounding type plug. This is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to replace your obsolete outlet. Do not attempt to defeat the purpose of the grounding-type plug. Always follow your local/national wiring codes.

- Do not allow anything to rest on the power cord or cables. Route the power cord and cables so that they cannot be stepped on or tripped over.
- If an extension cord is used with this device make sure that the total of the ampere ratings of all products used on this cord does not exceed the extension cord ampere rating. Make sure that the total of all products plugged into the wall outlet does not exceed 15 amperes.
- To help protect your system from sudden, transient increases and decreases in electrical power, use a surge suppressor, line conditioner, or uninterruptible power supply (UPS).
- Position system cables and power cables carefully; Be sure that nothing rests on any cables.
- Never push objects of any kind into or through cabinet slots. They may touch dangerous voltage points or short out parts resulting in a risk of fire or electrical shock.
- Do not attempt to service the device yourself. Refer all servicing to qualified service personnel.
- If the following conditions occur, unplug the device from the wall outlet and bring it to qualified service personnel for repair.
  - The power cord or plug has become damaged or frayed.
  - Liquid has been spilled into the device.
  - The device has been exposed to rain or water.
  - The device has been dropped, or the cabinet has been damaged.
  - The device exhibits a distinct change in performance, indicating a need for service.
  - The device does not operate normally when the operating instructions are followed.
- Only adjust those controls that are covered in the operating instructions. Improper adjustment of other controls may result in damage that will require extensive work by a qualified technician to repair.

Rack Mounting

- Before working on the rack, make sure that the stabilizers are secured to the rack, extended to the floor, and that the full weight of the rack rests on the floor. Install front and side stabilizers on a single rack or front stabilizers for joined multiple racks before working on the rack.
- Always load the rack from the bottom up, and load the heaviest item in the rack first.
- Make sure that the rack is level and stable before extending a device from the rack.
- Use caution when pressing the device rail release latches and sliding a device into or out of a rack; the slide rails can pinch your fingers.
- After a device is inserted into the rack, carefully extend the rail into a locking position, and then slide the device into the rack.
- Do not overload the AC supply branch circuit that provides power to the rack. The total rack load should not exceed 80 percent of the branch circuit rating.
- Make sure that all equipment used on the rack – including power strips and other electrical connectors – is properly grounded.
- Ensure that proper airflow is provided to devices in the rack.
- Ensure that the operating ambient temperature of the rack environment does not exceed the maximum ambient temperature specified for the equipment by the manufacturer.
- Do not step on or stand on any device when servicing other devices in a rack.
- **Caution:** Slide/rail (LCD KVM) mounted equipment is not to be used as a shelf or a work space.
- **Attention**: Glisser / rail (LCD KVM) monté l'équipement ne doit pas être utilisé comme une étagère ou un espace de travail.

Technical Support

Technical support is available both by email and online (with a browser over the web).

When you contact us, please have the following information ready beforehand:

- Product model number, serial number, and date of purchase.
- Your computer configuration, including operating system, revision level, expansion cards, and software.
- Any error messages displayed at the time the error occurred.
- The sequence of operations that led up to the error.
- Any other information you feel may be of help.

Specifications

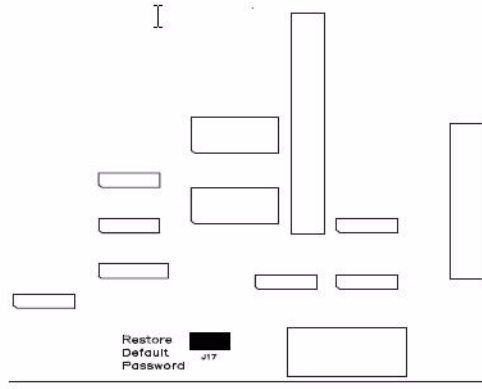
Function			RM-KB-LCD17KVMHD
Computer Connection	Direct		8
Port Selection			OSD, Hotkey, Pushbutton
Connector	Computer (KVM) Port	Keyboard/ Mouse	8 x USB Type B F(White)
		Monitor	6x DVI-D F (White) 8x HDMI F (Black)
		Audio/ Speaker	NA
	2nd Console	Keyboard	1 x USB Type A F (Black, rear panel)
		Mouse	1 x USB Type A F (Black, rear panel)
		Monitor 1	1x HDMI F Black
		Monitor 2	NA
		Monitor 3	NA
		Audio/ Speaker	NA
	LAN 10/100/1000 Mbps		1 x RJ45 F (Orange/ Green)
	External USB Port		1 x USB1.1 Type-A F (White)
	F/W Upgrade		Web UI upgrade
	Power		1 x 3-prong AC Socket
LED	Power		1 x LED (Green)
	On line		8 (Orange)
	Selected		8 (Green)
	Lock	Num	1 x LED (Green)
		Caps	1 x LED (Green)
		Scroll	1 x LED (Green)
Button/ Switch	Port Selection		8 x Pushbutton
	KVM Reset		1 x Semi-recessed Pushbutton
	FW Upgrade		NA
	Power Switch		1 x Rocker Switch
	LCD Adjustment		4 x Pushbutton
	LCD Power		1 x Pushbutton
Emulations	Keyboard		USB / PS2
	Mouse		USB / PS2
Video	Local		1920x1080@60Hz ; DDC2B , HDCP1.4
	Remote		1920x1080@60Hz

Function		RM-KB-LCD17KVMHD
I/P Rating		
Power Consumption		TBD
Environment	Operating Temperature	0-40°C
	Storage Temperature	-20-60°C
	Humidity	Operating Temperature 0-80%, Storage Temperature 0-35% RH, Non-condensing
Physical Properties	Housing	Metal , Dual Rail
	Weight	TBD
	Size (D×W×H)	Max. 28.63 x 18.9 x 1.73 Inch

Clear Login Information

If you are unable to perform an Administrator login (because the Username and Password information has become corrupted, or you have forgotten it), you can clear the login information with the following procedure.

1. Power off the switch and remove the top cover from the unit chassis.
2. Short the jumper labeled Default Password on the switch's main board



3. Power on the switch.

When you power the switch on, the following message appears on the LCD display:

USERNAME AND PASSWORD INFORMATION HAS BEEN CLEARED. PLEASE POWER OFF THE SWITCH, REMOVE THE JUMPER, CLOSE THE CASE, THEN RESTART.

4. After you start back up, the OSD login function acts exactly the way it did the first time the switch was run and you can reset passwords for the Administrators and Users.

OSD Factory Default Settings

The factory default settings are as follows:

Setting	Default
OSD Hotkey	[Scroll Lock][Scroll Lock]
Port ID Display Duration	3 Seconds
Port ID Display Mode	Port Number plus the Port Name
Scan Duration	5 Seconds
Screen Blanker	0 (Disabled)
Logout Timeout	30 mins
Beeper	Y (Activated)
Accessible Ports	F (Full) for all users on all ports
Default IP	192.168.0.60 (DHCP) user name = adminstrator password= password Access mode = share

Troubleshooting

Overview

Operation problems can be due to a variety of causes. The first step in solving them is to make sure that all cables are securely attached and seated completely in their sockets.

In addition, updating the product's firmware may solve problems that have been discovered and resolved since the prior version was released. If your product is not running the latest firmware version, we strongly recommend that you upgrade.

Problem	Solution
No audio from 2nd Console HDMI monitor	1, Make sure HDMI monitor is connected. 2. Open Web GUI Maintenance Section, Update Display Information. Select all ports and click "Update Display Info" to get HDMI EDID information.

Dedicated Invocation Keys

Two dedicated keys are provided on the keyboard module to make it easy to invoke Hotkey mode and the OSD, as shown in the diagram, below:

Note: These keys are toggles. Press them once to invoke the feature, press them again to exit.

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